The Journal

American Medical Association

A MEDICAL JOURNAL CONTAINING

THE OFFICIAL RECORD OF THE PROCEEDINGS OF THE ASSOCIATION, AND THE PAPERS READ AT
THE ANNUAL SESSION, IN THE SEVERAL SECTIONS, TOGETHER WITH THE

MEDICAL LITERATURE OF THE PERIOD

EDITED FOR THE ASSOCIATION UNDER THE DIRECTION OF THE BOARD OF TRUSTEES BY
GEORGE H SIMMONS, LL D, M D

VOLUME LXVI JANUARY—JUNE, 1916

AMERICAN MEDICAL ASSOCIATION CHICAGO 1916

OFFICERS OF THE AMERICAN MEDICAL ASSOCIATION—1915-1916

GENERAL OFFICERS

President—*William L Rodman	Philadelphia
President-Elect—Rupert Blue	Washington, D C
First Vice-President—†Albert Vander Veer	Albany, N Y
Second Vice-President—George B Evans	Dayton, Ohio
Third Vice-President—Donald Campbell	Butte, Mont
Fourth Vice-President—Herbert C Moffitt	San Francisco
Editor and General Manager—George H Simmons	535 N Dearborn St, Chicago
Secretary—Alexander R Craig	535 N Dearborn St, Chicago
Treasurer—William Allen Pusey	Chicago

---

* Died

† In case of the death of the President, the vacancy shall be filled by the ranking Vice President (*By Laws*, Chap V, Sec 2)

BOARD OF TRUSTEES

W W Grant	Denver, 1916
Frank J Lutz	St Louis, 1916
Oscar Dowling	New Orleans, La 1916
Philip Marvel	Atlantic City, 1917
Philip Mills Jones	San Francisco, 1917
W T Sarles	Sparta, Wis, 1917
M L Harris, Secretary	Chicago, 1918
W T Councilman, Chairman	Boston, 1918
Thomas McDavitt	St Paul, Minn, 1918

JUDICIAL COUNCIL

Hubert Work	Pueblo, Colo, 1916
Randolph Winslow	Baltimore, 1917
A B Cooke	Los Angeles, Cal, 1918
Alexander Lambert, Chairman	New York City, 1919
James E Moore	Minneapolis, 1920

Alexander R Craig, Secretary, 535 N Dearborn St, Chicago

COUNCIL ON HEALTH AND PUBLIC INSTRUCTION

H B Favill, Chairman	Chicago, 1916
Walter B Cannon	Boston, 1917
W S Rankin	Raleigh, N C, 1918
H M Bracken	Minneapolis, 1919
Milton Board	Louisville, Ky, 1920

Frederick R Green, Secretary, 535 N Dearborn St, Chicago

COUNCIL ON MEDICAL EDUCATION

W D Haggard	Nashville, Tenn, 1916
James W Holland	Philadelphia, 1917
H D Arnold	Boston, 1918
Arthur D Bevan, Chairman	Chicago, 1919
Robert C Coffey	Portland, Ore., 1920
N P Colwell, Secretary	535 N Dearborn St, Chicago

COUNCIL ON SCIENTIFIC ASSEMBLY

J Shelton Horsley	Richmond, Va, 1916
E S Judd	Rochester, Minn., 1917
Roger S Morris	Cincinnati, 1918
George H Simmons	Chicago, 1919

Alexander R Craig, Secretary of the Association, ex-officio

COUNCIL ON PHARMACY AND CHEMISTRY

O T Osborne	New Haven, Conn, 1916
Torald Sollmann	Cleveland, Ohio, 1916
M I Wilbert	Washington, D C, 1916
Reid Hunt	Boston, 1917
J H Long	Chicago, 1917
Julius Stieglitz	Chicago, 1917
David L Edsall	Boston, 1918
R A Hatcher	New York City, 1918
A W Hewlett	Ann Arbor, Mich, 1918
John Howland	Baltimore, 1919
Henry Kraemer	Philadelphia, 1919
C L Alsberg	Washington, D C, 1919
John F Anderson	New Brunswick, N J., 1920
F G Novy	Ann Arbor, Mich, 1920
George H Simmons, Chairman	Chicago, 1920
W A Puckner, Secretary	535 N Dearborn St, Chicago

SECTION OFFICERS

PRACTICE OF MEDICINE—Chairman, Roger S Morris, Cincinnati, Vice Chairman John A Lichty, Pittsburgh, Secretary, James S McLester, Empire Bldg, Birmingham, Ala

SURGERY, GENERAL AND ABDOMINAL—Chairman E W Andrews, Chicago, Vice Chairman, Fred T Murphy, St Louis, Secretary, E S Judd, Rochester, Minn

OBSTETRICS, GYNECOLOGY AND ABDOMINAL SURGERY—Chairman, Edward Reynolds Boston, Vice Chairman, Alfred B Spalding, San Francisco, Secretary, Brooke M Anspach, 119 S 20th St, Philadelphia

OPHTHALMOLOGY—Chairman Walter R Parker, Detroit, Vice Chairman, Ward H Hulen, San Francisco, Secretary, George S Derby, 7 Hereford St, Boston

LARYNGOLOGY, OTOLOGY AND RHINOLOGY—Chairman Hill Hastings, Los Angeles, Vice Chairman William R Murray, Minneapolis, Secretary, Francis P Emerson, 520 Commonwealth Ave, Boston

DISEASES OF CHILDREN—Chairman T C McCleave, Oakland, Calif, Vice Chairman, E P Copeland, Washington, D C, Secretary, F P Gengenbach, Metropolitan Bldg, Denver

PHARMACOLOGY AND THERAPEUTICS—Chairman, R A Hatcher New York, Vice Chairman, J R Arneill Denver, Secretary, M I Wilbert, 25th and E Sts, N W, Washington, D C

PATHOLOGY AND PHYSIOLOGY—Chairman, F P Gay, Berkeley, Calif Vice Chairman, James Ewing, New York, Secretary, Isabella C Herb, 110 S Ashland Blvd, Chicago

STOMATOLOGY—Chairman F B Moorehead, Chicago, Vice Chairman, Arthur D Black, Chicago, Secretary, Eugene S Talbot, 31 N State St Chicago

NERVOUS AND MENTAL DISEASES—Chairman, George A Moleen Denver, Vice Chairman M A Bliss, St Louis, Secretary, A S Hamilton 513 Pillsbury Bldg Minneapolis

DERMATOLOGY—Chairman, Howard Morrow, San Francisco Vice Chairman, Everett S Lain, Oklahoma City, Secretary, H H Hazen, 1621 Connecticut Ave Washington D C

PREVENTIVE MEDICINE AND PUBLIC HEALTH—Chairman, William C Rucker Washington D C Vice Chairman James Adams Hayne Columbia, S C Secretary O P Geier, Ortiz Bldg, Cincinnati

GENITO URINARY DISEASES—Chairman, Louis E Schmidt, Chicago, Vice Chairman, Francis McCullum, Kansas City, Mo, Secretary W F Braasch, Rochester, Minn

HOSPITALS—Chairman L W Littig, Davenport, Iowa, Secretary, John A Hornsby, Tower Bldg, Chicago

ORTHOPEDIC SURGERY—Chairman, Russell A Hibbs New York Vice Chairman, E W Ryerson, Chicago, Secretary, Emil S Geist, 614 Syndicate Bldg, Minneapolis

The Journal of the
American Medical Association

Published Under the Auspices of the Board of Trustees

Vol LXVI No 1 — Chicago, Illinois — January 1, 1916

OCCUPATIONAL INJURIES DUE TO RADIUM

REPORT OF CASES

THOMAS ORDWAY MD
Associate Professor of Medicine Albany Medical College
ALBANY, N Y

During the past two years, the Cancer Commission of Harvard University has been engaged in obtaining data concerning the therapeutic value of radium Owing to the great variety in type of lesions to be treated and in their distribution the methods of application have been varied, chiefly as to differences in filtration and protection This has necessitated in the application the frequent manipulation of highly radioactive tubes and applicators[1]

Rutherford[2] says

> Walkhoff first observed that radium rays produce burns of much the same character as those caused by Roentgen rays Experiments in this direction have been made by Giesel Curie and Becquerel and others with very similar results There is at first a painful irritation then inflammation sets in which lasts from ten to twenty days This effect is produced by all preparations of radium and appears to be due mainly to the alpha and beta rays Care has to be taken in handling radium on account of the painful inflammation set up by the rays If a finger is held for some minutes at the base of a capsule containing a radium preparation the skin becomes inflamed for about fifteen days and then peels off The painful feeling does not disappear for two months

Although these rather *acute* reactions due to radium are apparently well known to *physicists* working with radioactive substances, and considerable experimental work has been done on animals by biologists very little attention has been paid to the more chronic changes The purpose of this paper is to record a detailed description of symptoms and signs from the *clinical* point of view, and to emphasize the importance of these as occupational injuries, so that more serious effects may not result in those engaged in the application of radium as a therapeutic procedure

Personal observation in London and Vienna and in Germany while I was investigating the status of clinical work with radium had led me to note the possibilities of discomfort and injury from contact with radioactive substances

In London at the Radium Institute the plan was adopted of rotation in service each month for the nurses handling the applicators Attention had been called to the effects on the fingers of those handling the radium by sensory disturbance in the form of pain and anesthesia, first noticed by the difficulty experienced in preparing eggs at the table according to the English custom This may seem a trivial instance, but it well illustrates a peculiar sensitiveness to heat and the difficulty of delicate manipulation with the affected fingers

On the other hand, severe injury was observed in Vienna in the case of one who had handled large quantities of radium The thumb, forefinger and middle finger of the left hand showed severe lesions, particularly in the form of atrophy and intractable ulceration

In Paris at the Laboratoire biologique du radium, particular inquiry was made as to the effect of radium on the hands, and it is interesting to note that one of the attendants who had been making almost daily surface applications for over two years had up to that time experienced no injurious effects whatever This is probably due in part to the type of applicators used in this clinic

From this it will be seen that injurious local effects were anticipated so that the changes to be described were not acquired unwittingly but in spite of caution The increasing use of large quantities of radium warrants a detailed description and record of these changes, not only because of the annoyance and discomfort caused, but also as a warning from analogy to the Roentgen ray of more serious late effects, such as atrophy, intractable ulceration and even cancer Already in certain instances there has been caused not only great annoyance from discomfort but actual impairment in manual dexterity in performing delicate manipulations because of persistent local anesthetic effects

Throughout the first year of the radium work at the Huntington Hospital, a considerable proportion of the applications were made by the physician in charge As a result of manipulation due to the clinical applications of radium in the variety of cases referred to above, a few weeks after beginning there was noticed slight though gradually increasing sensory disturbance in the finger tips, particularly on the ulnar side of the first phalanx of the thumb and the radial side of the terminal phalanges of the index and middle fingers of each hand

These symptoms occurred very insidiously, and consisted of blunting of sensibility of the finger tips, paresthesia, such as increased sensitiveness to heat and pressure, amounting at times to actual pain, and anesthesia of varying degrees

The subjective disturbances were out of all proportion to the objective findings, which included flattening of the natural ridges on the affected fingers with consequent changes in the characteristic markings of the finger prints, thickening of the horny layer of the epidermis with scaling, failure of the tips of the fingers to resume their normal shape after pressure, a sort of pitting, and upgrowth of the cuticle at the base of and underneath the nails, which were easily cracked, extremely brittle, and tended to stand off from the fleshy part of the fingers

---

[1] Ordway Thomas The Use of Radium in Cancer and Allied Conditions at the Huntington Hospital, Boston Med and Surg Jour Nov 19 1914

[2] Rutherford, Ernest Radioactive Substances and Their Radiations New York G P Putnam s Sons 1913 p 327

Each assistant and nurse before engaging in the clinical application of radium was warned of the annoying and possibly dangerous effects, and told not to handle the active tubes of emanation with the fingers but to make use of forceps In spite of this, a certain amount of handling was unavoidable in changing the radium tubes for suitable filtration and protection in the different cases

Nurses and assistants, and also members of the commission have been asked to describe carefully and independently the subjective and objective changes produced The onset, variety and annoyance of the effects may be best understood and appreciated by the individual descriptions to be cited, for *the most part in the sequence of their occurrence*

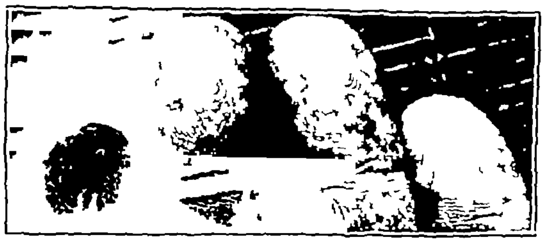


Fig 1 (Case 7) —Photograph showing the flattening of the ridges on the tips of the index and middle fingers compared with the ring and little fingers, left hand

Case 1 (C O 1520) —A physician began making routine applications of radium during the early part of November, 1913 These continued in increasing numbers until the latter part of January, 1914 Since that time, applications have been made only in special cases

After a few weeks the tips of the thumbs, particularly toward the ulnar side, and the fore and middle fingers, especially toward the radial side, gradually became numb and felt unnatural from the blunting of sensibility They were very tender on pressure so that buttoning small buttons was not only difficult because of the anesthesia but also painful Hyperesthesia was also noted in a markedly increased sensitiveness to heat. There was paresthesia in the form of a peculiar unnatural feeling of the finger tips and awkwardness in using the fingers for delicate manipulation Because of the anesthesia, small objects were frequently dropped, and difficulty was noted in taking pulses with the affected finger tips, which are those commonly used These subjective symptoms have been very pronounced, persistent and out of all proportion to the objective findings

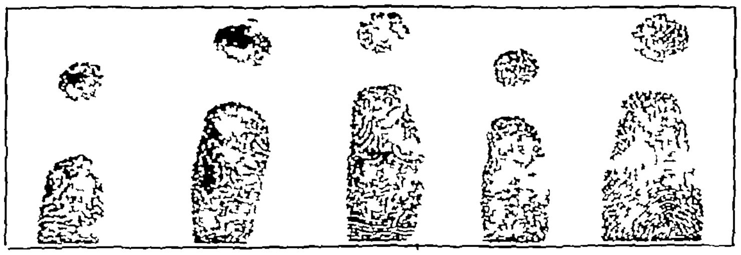


Fig 2 (Case 4) —Finger prints of fingers of the left hand Note that the characteristic ridges are less marked and show more breaks on the thumb, index and middle fingers, particularly on the extreme tips, left hand, from left to right little finger, ring finger, middle finger, index finger and thumb

The affected portions of the fingers described above became smooth and shiny, and the ridges giving the characteristic finger prints became less marked and almost obliterated (Figs 1 and 2) Later the epidermis was thickened, dry and parchmentlike, and on pressure the pad of the finger tip remained indented for some seconds instead of immediately resuming its rounded form (Fig 3)

The thickened horny layer became wrinkled and cracked, and scales of varying size repeatedly desquamated The nails stood off from the fleshy part of the affected fingers, and there was a marked tendency for the upgrowth of the tissue beneath the nail (Figs 4 and 5)

At the present time, although the patient has actually handled the radium for clinical application only occasionally for almost a year, the pain, tenderness and sensitiveness to heat and the objective signs have largely disappeared, notwithstanding this interval, the dryness, parchmentlike feeling, partial anesthesia and slight tenderness of the affected finger tips persist

Case 2 (C O 1521) —A nurse began making routine applications of radium in December, 1913, and continued this until the last of February, 1914 After that time occasional applications were made with an interval of three months on vacation "Two weeks after first handling the radium tubes, dryness of the skin was noted A little later the flesh on the finger tips of both hands, especially the thumbs and forefingers, looked yellow and was easily indented on pressure. In about a month the skin over the finger tips began to crack and peel, and the dryness of the skin extended down the fingers to the palms of the hands The flesh grew more rapidly than normally at the base of and below the free edge of the nails, which became very brittle. Numbness developed in the finger tips of both hands, awkwardness in picking up articles, pain on buttoning clothing, sensitiveness to heat, and later hot throbbing sensations extending the entire length of the fingers on handling radium At present there is no tenderness, but marked paresthesia and slight anesthesia, slight peeling, dryness and marked numbness of the tip of the thumb, index and middle finger of each hand Great annoyance is caused and difficulty in delicate manipulation"

Case 3 (C O 15 22) —A nurse began making routine clinical applications of radium in February, 1914, and continued until June, 1914

"After a few weeks the tips of the fingers became yellowish-white, gradually growing whiter until the fingers looked as if they had been burnt The skin about and under the nails hardened and grew thicker The fine lines on the finger tips began slowly to disappear, leaving the tips tight, white and swollen The finger tips remained white, and minute cracks appeared Then from the whole tip of the fingers the skin peeled off, leaving the ends smooth, pink and shiny (Fig 6)

"The tips of the middle finger and thumb of the left hand again became swollen and hard, the thumb appeared yellow as if calloused, the skin is dry and cracked and there is a spot on the thumb 1 by 2 cm that is red and smooth where the upper layer of skin is cracked and peeled off

"The left forefinger is swollen, hard and yellowish brown with minute cracks as if the skin were too tight, the fingers are not wholly straight, but curved a bit toward the palm The nails seem to stand out from the fingers (Fig 4) The cuticle is dry and white, cracked in some places and inclined to grow down around the nail The finger tips dent on pressure

"Subjectively it is noted that the fingers were sensitive to pressure especially on the nail They gradually became stiff and were tender on bending Definite pulsation was felt about a month after first using the radium The fingers were very hot and felt much as a mildly septic finger feels, they gradually became oversensitive to heat, and the sense of touch was not so sure Articles would drop from the fingers

"This has been persistent up to the present time, and it is hard to pick up pins or button anything Pressure on the nail and on the very tip of the finger is painful The fingers feel very hard, stiff and awkward It is difficult to tie and loosen hard knots The hand is dry and rough, and feels big"

Case 4 (C. O 15 23) —An assistant, medical student, began making routine clinical applications of radium, June 3, 1914

"The work consisted in transferring glass capillaries of emanation from one steel jacket to another, or to flat applicators (Fig 7) in fixing silver sheaths over the steel, in arranging a number of steel tubes between pieces of lead, paper and gauze and then wrapping all together in rubber sheeting and adhesive. Tubes of emanation were also placed in various special applicators In unscrewing the tubes they were held in dressing forceps by the left hand, and the points and eyes were held by the right hand occasionally between the thumb and forefinger, but almost always straight half length hemostats The applicators were held in the left hand and fastened with adhesive by the right hand Glass capillaries have never been picked up or held by the fingers, and only rarely in the early part of the work were the steel tubes so held and then for not more than a few seconds The number of applications per day has varied from five to sixteen, average ten This indicates approximately the number of times a day that the tubes were handled or changed

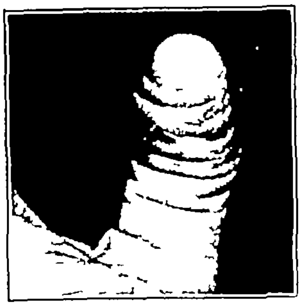


Fig 3 (Case 1) —Photograph showing the tip of the thumb remaining indented after pressure indicating the hardening and "empty" feeling of this finger, a late effect, moderately anesthetic.

"During the first three weeks there was no noticeable effect Then gradually the tips of the thumbs and index fingers assumed a smooth shiny appearance with flattening of the ridges (Figs 1 and 2) This became noticeable at the end of the fourth week Up to this time there was no unusual sensation During the fifth week a very thin layer of epidermis loosened and peeled off the tips of the thumb and index fingers from the nail to half way to the second phalanx, this scaling took a week, during which the finger tips affected became somewhat swollen, and there was a sense of fulness in them They were warmer to touch than the other fingers of either hand There was slight sensitiveness to pressure and a tendency to drop small objects, such as pins, if picked up in the usual manner During the sixth and seventh weeks the fulness and discomfort disappeared In the eighth week the swelling increased and the skin became tense, the sense of fulness returned, and pain was experienced on touching a small object, such as the head of a pin There was also some difficulty in picking up small articles and holding them, especially if not directly thinking of them After the eighth week of making radium applications a vacation of two weeks was taken, during this time, in which no radium was handled, the outer layer of skin on the affected finger tips again became white, hard and peeled off, leaving the fingers much more sensitive to pressure, either gradual or sudden, and to heat. Indeed, severe pain was felt when taking up a cup of hot coffee, a heated test tube or on washing the hands in water of such a temperature as was not at all painful to the unaffected parts of the skin

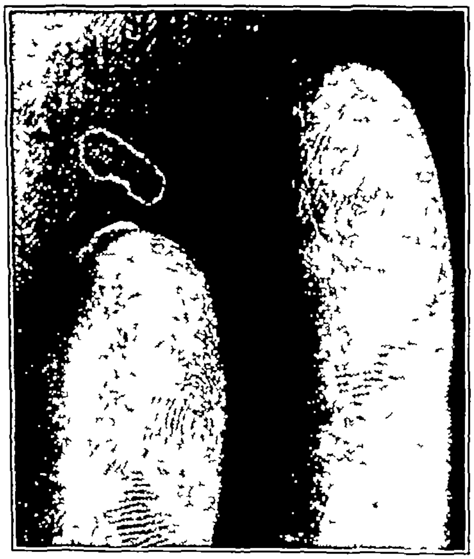


Fig 4 (Case 3) —Photograph showing the flattening of the ridges of the tips of the index and middle fingers of the left hand. Note how the free ends of the nails stand away from the fleshy part of the finger tip, also note on the forefinger the upgrowth of the skin beneath the nail.

"Similar process of swelling of the finger tips, hardening of the superficial layers, cracking and peeling was repeated in the thirteenth, fifteenth and seventeenth weeks Each time during and immediately following the peeling there was marked tenderness and acute pain on striking or pinching any object, occasionally a throbbing sensation, more marked if the arms were hanging down, was felt in the affected fingers The tenderness was so severe that it was difficult to button small buttons, or to tie or untie knots, such as shoe strings and necktie, in one instance a room mate's assistance was required in undoing a tighly drawn necktie At present the skin of the tips of both thumbs and index fingers and small areas of the left middle and ring fingers is smooth and shiny, the ridges are flattened or absent, and the surface is cracked in appearance When pressed on the flesh of these finger tips remains indented for an appreciable time There is no apparent difference in vascularity as judged by their color

"The index finger and thumb of the left hand, which is most affected, are distinctly tapering in contrast to the flat blunt tips of the other fingers and to their own condition before June 1 On fully extending these two fingers and to a less extent the index finger of the right hand, there is a marked pulling sensation at the junction of the flesh and the nail The finger tips are at the present time only moderately tender"

Case 5 (C. O 15.24) —Assistant, medical student, began making clinical applications of radium, July 4, 1914 "First noticed slight tenderness in the tips of left thumb and index finger This gradually increased to pain on touching objects Otherwise there was no abnormal sensation About Aug 8, 1914, felt in the finger tips a very distinct pulsation which made it impossible to take the pulse for blood pressure estimation in the usual way About this time a slight darkening of the color and numbness was noticed This involved also the tip of the middle finger of the left hand The tenderness disappeared, but the numbness increased until there was such marked anesthesia that it was impossible to button the shirt without looking because the buttonhole could not be felt with the forefinger or the button with the thumb The finger tips when pressed on would retain the impression much longer than usual About a week later a small white spot appeared on the tips and became almost 1 cm in diameter This was picked off out of curiosity, it resembled a callus of the palms The skin beneath was smooth, bright red to pinkish in color, dry and extremely tender Three areas similar to this appeared One cracked open, but there was no tendency to bleed. The tenderness was so great that it was necessary to bandage the fingers for a week, when the cracked area healed On the three fingers of the right hand the superficial layer of skin peeled from the tip to the middle phalanx. At present date the fingers appear normal except for smooth, glossy appearance and a tingling sensation which seems to spread over the whole finger tip when a small object such as the head of a pin is touched"

Case 6 (C O 15.25) —Assistant, medical student, made no routine clinical applications of radium, but on one occasion brought the day's supply of radium emanation from the physical laboratory to the hospital and thoughtlessly put the active tube in his pocket. "On July 28, 1914, I carried a tube containing 32 millicuries of radium emanation in the left pocket of my trousers for about one hour On Aug 4, 1914, I noticed an irregularly oval red spot on the anterolateral aspect of my left thigh It was about 2 cm long and 1 cm wide At this time there was no tenderness The red spot gradually became tender, at first only to marked pressure and later to a slight touch The skin in the center of this spot became yellowish, and by Aug 12, 1914, there was a yellowish spot surrounded by a red border which faded into the surrounding normal skin.

"At this time the spot was very tender and felt warm About August 15 the yellowish skin had scaled off, leaving between the radiated and normal fingers, the former being much more insensitive This relative insensitiveness to the faradic current might suggest injury to the nerve rather than to the terminal sensory end organs It may, however, be due in some cases to increased resistance of the skin because of thickening of the horny layer

With the idea of determining whether demonstrable histologic changes occurred in the chronically affected and relatively insensitive finger tips, Oct 7, 1914, under aseptic precautions, without anesthesia, fragments of skin, including a portion of the corium, were excised with scissors from the tip of the right forefinger and little finger of Case 1, in the first instance there was very slight bleeding and little pain, while in the latter there was rather marked bleeding, soaking through a dressing, and considerable pain The fragments were potted in Zenker's fluid Both finger tips healed readily in a few days Paraffin sections stained in eosin and methvlene blue showed numerous nerves and terminal special sense organs No marked difference was evident between the fragment from the control fingers by this technic, and specimens were not available for Weigert and Marchi methods

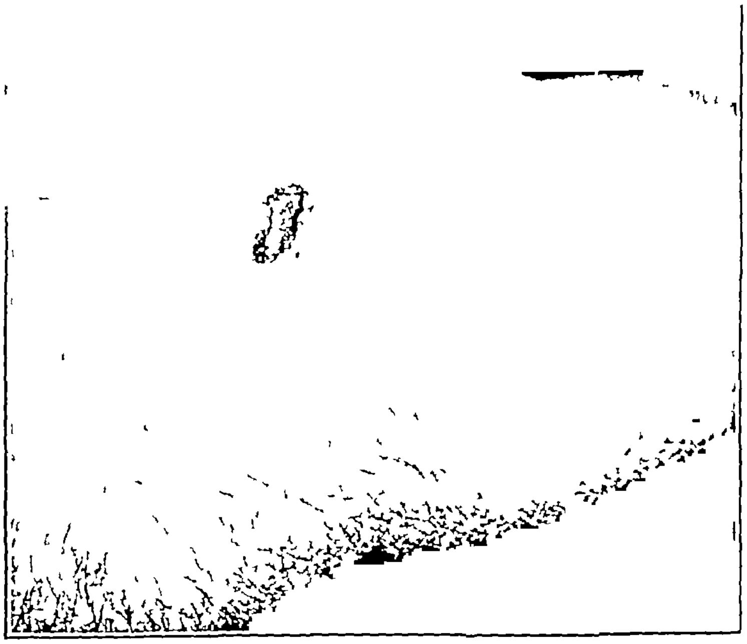


Fig 8 (Case 6) —Superficial ulceration on thigh, a reaction from the accidental application of radium, due to keeping radium tube (32 millicuries) in trouser's pocket for an hour

AVOIDANCE OF INJURY

Various methods have been devised, particularly by Dr W T Bovie, for avoiding these injurious local effects by the least possible contact of the fingers with the radium Forceps or special vises are used for holding tubes and screwing in or out the tips and eyes, special applicators in the form of metal boxes have been constructed so that the active tubes may be added after the filtration and protection have been arranged, and the surface applicator is then slipped by forceps into a special rubber envelope and fastened with adhesive This is particularly to avoid wrapping them up by hand in sheet rubber Leaded gloves, fingers, etc, are clumsy and are not readily worn

In placing active tubes in special applicators, it will probably not be possible to avoid all contact with radium, and as the effects are not apparent at once, as when handling very hot objects such as heated glass, but only after a period of days or even weeks, it will be difficult to train a worker to avoid contact with the active apparatus

In the work of making routine applications of radium there should be a rotation in the staff, and persons affected should be freed at least temporarily from such work

In order to avoid possible general disturbance, the body should be protected as far as possible by metal screens in form of boxes or plates about the radium, there should be frequent ventilation of work rooms, particularly if there is radium emanation present, and a change of duty, shorter hours and periodic physical examination of those working with radioactive substances with special reference to the blood examination is indicated

SUMMARY AND CONCLUSIONS

From the foregoing it is evident that marked changes may occur on the fingers of those engaged in routine work with radioactive substances These local objective changes consist chiefly of flattening of the characteristic ridges, thickening and scaling of the superficial layers of the skin and even atrophy and intractable ulceration These lesions are usually slight compared with the marked subjective symptoms, such as paresthesia, anesthesia of varying degree, tenderness, throbbing and even pain The persistence of such effects is noteworthy

Various general systemic symptoms and also blood changes may be produced by exposure to radioactive substances To avoid such local and general disturbance, special protective and preventive measures have been devised, and those engaged in routine handling of radioactive substances are particularly cautioned

---

THE PHYSICIAN AND THE WEATHER BUREAU *

FORD A CARPENTER, LLD
LOS ANGELES

INTRODUCTION

Hippocrates, the Father of Medicine about 600 years before Christ, wrote a strangely interesting and powerful book on "Airs, Waters and Places" "Such a title immediately suggests climatology," says Dr De Lancey Rochester[1] in a paper read before this association three years ago, entitled "Climatology as Practiced by Hippocrates," and he believes that this was one of the genuine works of Hippocrates the Great

Hippocrates, in his introduction to this work, says

> Whoever wishes to investigate medicine properly should proceed thus In the first place consider the seasons of the year, and what effects each of them produces (for they are not all alike, but differ much from themselves in regard to their changes) Then the winds, the hot and the cold, especially such as are common to both countries, and then such as are peculiar to each locality We must also consider the qualities of the waters, for as they differ from one another in taste and weight, so also do they differ much in their qualities In the same manner when one comes into a city to which he is a stranger, he ought to consider its situation, how it lies as to the winds and rising of the sun, for its influence is not the same whether it lies to the north or to the south, to the rising or to the setting sun

---

* Read before the Thirty Second Annual Meeting of the American Climatological and Clinical Association, San Francisco, June 18, 1915

[1] Rochester De Lancey Tr Am Climatol Assn, 1912, xxviii

HOW THE PHYSICIAN MAY UTILIZE THE WEATHER BUREAU

Dr Charles F Marvin, the chief of the United States Weather Bureau said in a recent address, "The Functions of the Weather Bureau of the United States Department of Agriculture are so many, so widespread is its scope that it may be said to encompass practically all fields of life and work" From the very extended nature of the work of the bureau it seems opportune that the medical profession be shown some of the ways in which this service may aid them The object of this paper, then, is to suggest means by which the medical profession may utilize the vast storehouse of climatic data accessible at Washington and at all weather bureau stations, to prove the readiness of the personnel of the bureau to assist the physician, to present some applications of these data from a layman's point of view and to offer an account of some intensive climatic studies which have been prosecuted by the writer during the past few years

Every one is familiar with the ordinary health resort advertising literature, a perusal of which gives one the impression that ideal weather conditions only prevail in that locality Now physicians want facts as to this They prefer to make their own deductions They do not want idealizations The weather bureau presents these facts The question is, How may these facts be obtained?

THE SOURCE OF METEOROLOGIC DATA IN THE UNITED STATES

The source of weather data is from the regular stations of the bureau, and from the special or cooperative stations There are about two hundred of the regular stations, and over four thousand of the special stations scattered over the United States The geographic distribution of these regular and cooperative stations may be noted from Table 1 and Figure 1

Each of the regular stations of the bureau represents from 1 to 15,000 square miles of territory There is no limit to the special stations except the securing of congressional appropriation for purchase of instruments, and the securing of a satisfactory observer who will proffer his services in a locality where observations are desired These special stations, however, must be 20 miles apart In number of stations, of all kinds, California takes the lead, having a total of 511 meteorologic stations of all classes

TABLE 1.—APPROXIMATE NUMBER OF COOPERATIVE STATIONS OF THE UNITED STATES WEATHER BUREAU LOCATED IN THE VARIOUS PARTS OF THE UNION

Alabama	61	Md and Del.	46	Ohio	117
Arizona	80	Michigan	125	Oklahoma	84
Arkansas	47	Mississippi	71	Oregon	137
California	315	Minnesota	82	Pennsylvania	115
Colorado	126	Missouri	78	South Carolina	58
Florida	75	Montana	111	South Dakota	89
Georgia	68	Nebraska	133	Tennessee	69
Idaho	101	Nevada	50	Texas	206
Illinois	96	New England	85	Utah	139
Indiana	70	New Jersey	45	Virginia	57
Iowa	106	New Mexico	160	Washington	136
Kansas	134	New York	111	West Virginia	58
Kentucky	47	North Carolina.	87	Wisconsin.	94
Louisiana	62	North Dakota	81	Wyoming	77

The cooperative stations enumerated in this list are taken from Climatologic Data from the United States by Sections II No 3 March 1915 As all such stations report precipitation and some statisticians report this element only the totals were prepared by considering the precipitation stations Total number in the United States 4 083

Located at each of the weather bureau stations are one or more trained observers, such stations are equipped with barometers, thermometers, wind-vanes, rain and snow gages and anemometers, and nearly all have sunshine recorders, barographs, thermographs and other apparatus which make a continuous automatic record of the local weather conditions

HOW THE WEATHER MAP MAY BE UTILIZED

The prime object of the regular stations is to make simultaneous meteorologic observations from which the twice-daily weather map is prepared and weather forecasts are deduced The duties of the noncommissioned and unpaid observers comprise daily temperature and precipitation observations, so that from both classes of observations it may be possible to construct a satisfactory climatology So we may say it takes a lot of weather to make a climate

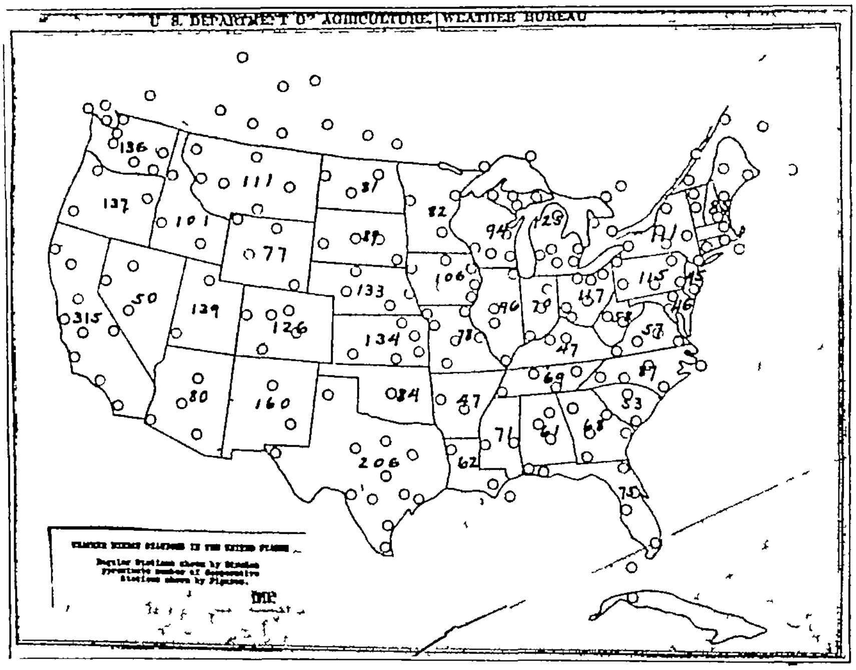


Fig 1.—Weather bureau stations in the United States The geographic position of the regular stations is shown by circles the approximate number of cooperative stations is designated by figures

The regular stations of the bureau, in addition to being clearing-houses for meteorologic information, prepare, twice a day, complete weather observations which are telegraphed to Washington and to certain district centers preparing weather maps Over a hundred of such stations publish these daily maps The weather map may be most useful to the physician who keeps track of the storm movements and gathers first-hand information as to existing and coming weather conditions over the United States He will soon learn to associate stormy, cloudy and comparatively warm weather with those atmospheric whirls called "lows," and fair, sparkling, comparatively cool weather with the whirls called "highs"

As to the further application of this weather map One of the large California citrus fruit growers times the shipment of his orange and lemon cars so that they will have the advantage of the cool and dry weather of the weather-map "highs" in their eastern journey There is no reason why a physician should not do likewise and take advantage of the weather map and route his patients according to the great atmospheric movements and thus avoid deleterious weather conditions It ought to be a common occurrence for the physician to consult the weather bureau as to the railroad altitudes and average weather conditions along their lines so that advantage could be taken of railroad routes having low altitudes, warm winter and cool summer weather

TABLE 2—SPECIMEN OF THE MONTHLY METEOROLOGIC SUMMARY ISSUED AT ALL STATIONS OF THE UNITED STATES WEATHER BUREAU AND AVAILABLE FOR THE USE OF THE PUBLIC *

U S Department of Agriculture Weather Bureau O F Marvin, Chief
Monthly Meteorological Summary, Los Angeles for May, 1915

Date	Temp			Precipitation (Inches)	Character of Day	P ct pos sunshine	This month since 1877		
	Highest	Lowest	Mean				Year	Mean Temp	Total Precipitation
							1877		
	55	41	48	03	Cloudy	31	1878	63	0 66
	55	44	50	54	Cloudy	13	1879	62	0 24
	65	48	56	00	Pt Cldy	67	1880	65	0 04
4	61	51	56	29	Cloudy	8	1881	64	0 01
5	61	48	54	00	Pt Cldy	37	1882	64	0 63
6	63	52	58	00	Cloudy	13	1883	64	2 02
7	65	54	60	00	Pt Cldy	54	1884	64	0 35
8	69	53	61	T	Pt Cldy	57	1885	66	0 06
9	68	54	61	00	Pt Cldy	62	1886	65	0 00
10	70	55	62	00	Pt Cldy	59	1887	65	0.20
11	74	55	64	00	Clear	72	1888	63	0 02
12	74	55	64	00	Clear	80	1889	63	0 62
13	67	55	61	00	Pt Cldy	59	1890	63	0 03
14	69	53	61	00	Clear	100	1891	62	0 31
15	82	57	70	00	Clear	100	1892	62	2 06
16	78	57	68	00	Pt Cldy	81	1893	63	0 06
17	64	54	59	02	Cloudy	33	1894	60	0 20
18	70	51	60	00	Clear	79	1895	64	0 19
19	70	51	60	00	Clear	99	1896	63	0 30
20	69	51	60	00	Clear	76	1897	63	0 10
21	70	51	60	00	Pt Cldy	79	1898	60	1 75
22	69	52	60	00	Pt Cldy	69	1899	60	0 04
23	71	51	61	00	Pt Cldy	36	1900	64	1 81
24	68	54	61	00	Pt Cldy	61	1901	60	1 50
25	68	54	61	00	Pt Cldy	68	1902	61	0 03
26	77	54	66	00	Clear	87	1903	61	T
27	95	64	80	00	Clear	100	1904	62	T
28	85	59	72	00	Pt Cldy	91	1905	61	0 05
29	69	59	64	00	Cloudy	9	1906	60	1 02
30	71	58	64	00	Pt Cldy	65	1907	61	0 07
31	72	55	64	00	Pt Cldy	60	1908	60	0 25
							1909	60	0 00
							1910	63	0 00
							1911	61	0 02
							1912	63	0 12
							1913	61	0 05
							1914	60	0 43
							1915	62	0 88

Mean highest temp	69 7
Mean lowest temp	53 2
Mean temp for month	61 5
Total inches of precipitation during this month	0 88

Summary

Barometer

Mean, 29 91 inches highest 30 14 inches, 9th lowest, 29 66 inches, 28th

Temperature

Highest 95 on 27th lowest 41 on the 1st greatest daily range 31 on 27th least 10, on the 4th normal for this month 62 5 absolute highest this month for 38 years 103 (25th 1896) lowest 40 (16th 1883) average daily deficiency of this month as compared with normal 0 1 accumulated excess since January 1 184

Precipitation

Total for this month 0 88 snowfall, 0 greatest precipitation 24 hrs , 0 57 1st 2d normal for this month 0 48 total for September 1 1914 to date 17 04 normal from Sept 1 to date, 15 57 excess from Sept 1, 1914 to date 1 47 average seasonal (37 years) 15 55

Wind

Prevailing direction SW total movement, 4 732 miles average hourly velocity 6 3 miles maximum velocity (for 5 mins) 28 miles per hour from NW on 19th

Weather

Number of clear days 9 partly cloudy, 16 cloudy, 6 on which 01 inch, or more rainfall occurred 4 Mean mthly rel humidity, 74 p ct

Sunshine

Number hrs actual sunshine	265 2
Number hrs possible	432 1
Percentage of possible	61

Phenomena	Dates
Auroras	0
Solar Halos	3
Lunar Halos	0
Hail	0
Fog, light	10, 11 12 23 31
Fog dense	23
Thunderstorms	0
Frost light	0
Frost, heavy	0

Note —"T" indicates trace of precipitation

A W P
Form 1030 —Met'l

Ford A Carpenter
Local Forecaster

* Physicians may be placed on the mailing list on application to the official in charge of the station from which climatic data are desired

THE SCOPE AND AVAILABILITY OF CLIMATOLOGIC DATA

As to the climatologic work of the bureau we have from the central office of the weather bureau[2] the following data

Although the 200 regular observing stations, each representing about 15,000 square miles of territory, furnish sufficient data on which to base the various forecasts, observations at many intermediate points are necessary before the climatology of the United States can be properly studied This need has given rise to the establishment of an important and interesting feature of the Weather Bureau in its Climatological Service, which is divided into 44 local sections, each section, as a rule, covering a single state, and having for its center a regular observing station These centers each month collect temperature and precipitation observations from more than 4,500 cooperative and other stations, and publish each a monthly and an annual summary, giving a large amount of climatological data for each month and the year

It is thus seen that the cooperative observers through long periods of temperature and precipitation observations have enabled the bureau to perfect extensive records In addition to publishing monthly climatologic data in the *Monthly Weather Review* (the first volume was issued with the first of the year 1873) special contributions in climatology and meteorology are published along with the usual profiles, charts and tables Bulletins prepared by the scientific staff are also issued by the bureau, no less than seventy have been published One of these bulletins is the incomparable "Climatology of the United States "[3] The eminently practical arrangement and the thoroughness of this volume makes it one to be earnestly recommended to the physician interested in climatic study A copy of this book will be found in the station library of any weather bureau office While the local libraries are as complete as circumstances may permit, and form a veritable mine of climatic data, these half a thousand volumes are insignificant when compared with the central office library in Washington with its 32,000 titles in meteorology This is the largest meteorologic library in existence It is available to students of meteorology generally, who either consult it personally or through correspondence This correspondence feature makes it possible to readily consult rare and ordinarily unavailable books

Local offices of the weather bureau have complete records covering continuous registration of the meteorologic elements An abstract of these records is issued at all stations of the service on the first day of the month following One of these summaries is given in Table 2

In addition to placing the available meteorologic records at the disposal of the applicant, the weather bureau officials throughout the country will be found prompt and courteous in their treatment of applicants for data in person or by correspondence In many instances they will render unexpectedly valuable aid to the physician in giving him clear and concise data perhaps not comprehended in their official routine, yet none the less accurate and satisfactory From their technical training they are keen observers and their judgment on climatic matters is free from local prejudice

SOME POPULAR MISCONCEPTIONS RELATING TO CLIMATE AND HEALTH

Air Pressure Does Not Directly Affect Health—From the multitude of problems recently presented, the one considering the relationship between air pressure and health appears now to be the most popular There is considerable misconception regarding this subject occasioned primarily by confusing effect with cause The mere change in atmospheric pressure from day to day has nothing whatever to do with one's physical well-being. The recent publicity given to this subject during the last few months is simply a revival of a myth laid a generation ago by Thomas.[4] For example, in a recent public bulletin it is stated that when the barometer drops from 30 to 29 inches from one day to the next the human body is relieved of half a ton of atmospheric pressure, with resulting depression of spirits, etc. In the first place it is quite unusual for the barometer to drop 1 inch in so short a time and in the second place experiments have proved that the influence on the body of variations in pressure are greatly overestimated.

---

[2] The Weather Bureau, 1915, Washington, Govt Printing Office

[3] Henry Bull Q Climatology of the United States, Washington, 1906

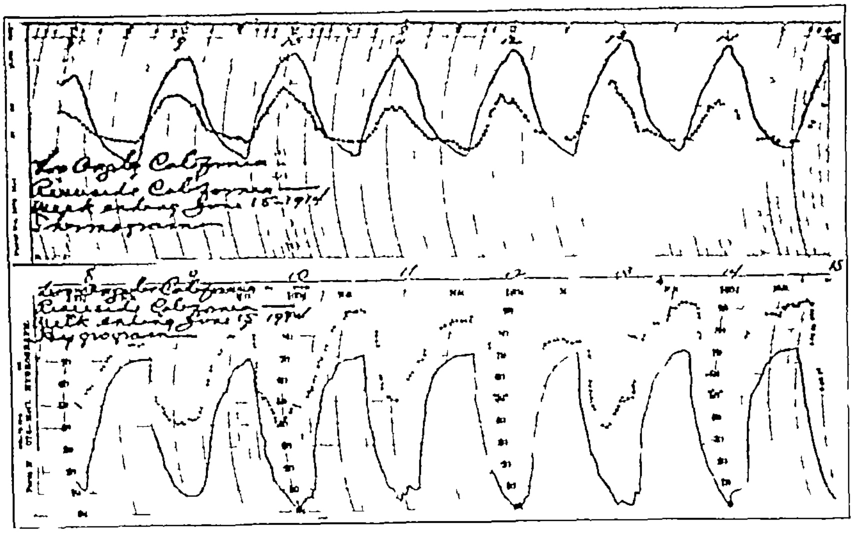


Fig. 2.—Weekly thermograph and hygrograph tracings. Variations in temperature and relative humidity between Los Angeles (10 miles from the sea) and Riverside (65 miles from the sea) for the week ending June 15, 1914.

Hann,[5] in his handbook on climatology translated by Prof. Robert De C. Ward, quotes Thomas and says that in experiments with pneumatic chambers, pressure changes amounting to 300 mm. (over 11 inches in barometric values) a day have been produced without causing any injurious effects on the sick persons concerned in these experiments. Although these experiments were made nearly half a century ago, the pressure myth has persisted, and even this year has found its way into soberminded periodicals. If a local example is needed to demonstrate further the untenability of the pressure theory, we have only to recall that in Los Angeles, for example, the range of the barometer from day to day averages a tenth of an inch of the mercurial column, equaling the variation experienced when riding in an elevator from the ground floor to the top of office buildings.

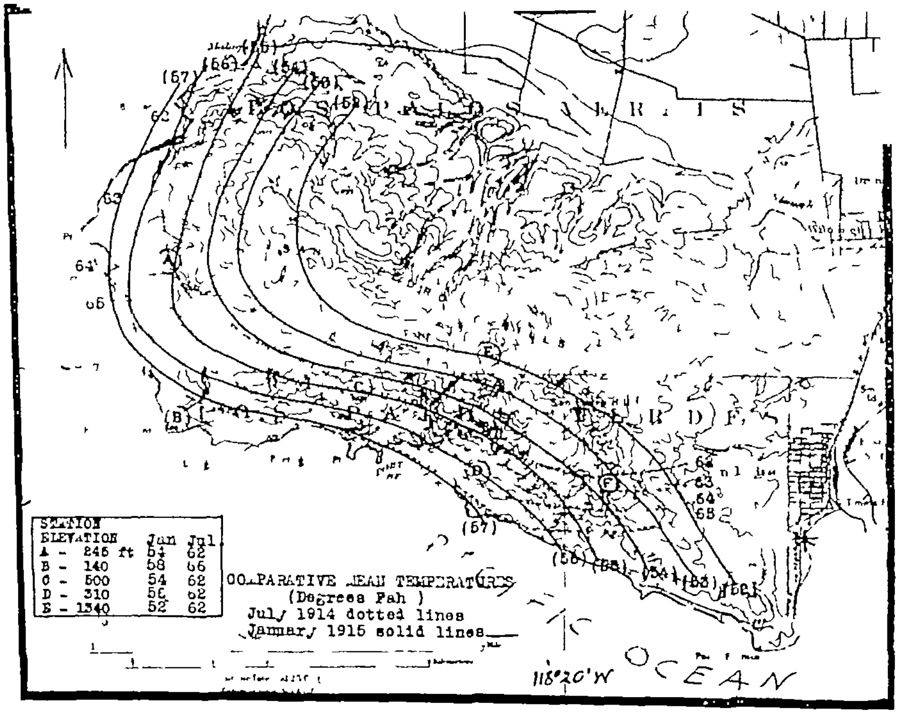


Fig. 3.—Mean temperatures for January and July at Los Palos Verdes near Los Angeles.

If there was anything in this theory we would have an "elevator disease" among the elevator conductors who continually experience excessively rapid fluctuations in bodily pressure.

It is rather the fair weather and decreased humidity which accompany rising barometric pressure that elevate one's spirits, or the cloudy threatening weather and increased humidity which accompany a falling barometer that affect the human system. Dr. C. C. Browning[6] noted this when his studies showed that the tuberculous patients became pessimistic and some very unreasonable in their demands during days with little or no sunshine and hopeful of recovery during bright days and moderately low humidity.

Sunshine and Ventilation of More Importance Than Relative Humidity.—I believe that the location of the home or office, the exposure of the living or workroom has much more more to do with the health of the occupant than whether or not the relative humidity is much below or above normal. Exposure to sunshine and ample ventilation are all important.

A friend complained of ill health and blamed the humidity of his office room. He said that it was too damp and asked me to investigate. I took my psychrometer and made a series of observations, finding that there was actually less humidity in his private office than out in the street. I studied the situation and eliminated temperature, humidity, air pressure, etc. Then I turned to air movement, and found the ventilation very bad. I suggested a simple air changing system and my friend regained his health in a few weeks, and was still enjoying his private office when I last heard from him

---

[4] Thomas quoted by Hann. Beitr. z. Allg. Klimatol. Erlangen, 1872.

[5] Hann, M. Y. Beitr. z. Allg. Klimatol. Erlangen, 1872.

[6] Browning, C. C. Tr. Am. Climatol. Assn., 1913, xxix.

Living Quarters and Air Drainage—Facing houses with relation to natural air drainage is also a most important point in selecting a home Many a home, otherwise healthful and satisfactory in every other respect, has been abandoned because the architect and owner did not consider the principles laid down by Hippocrates two thousand years ago

Dr Estes Nichols at last year's meeting of this association said in his paper on "Housing and Its Relation to Climate"[7] "Can any climate rise above its housing conditions? I offer no theories concerning the building of houses, as theories are apt to be overthrown by each succeeding year I only offer the one fact that has been well established, and that is the vital necessity of plenty of room, as well as plenty of light and air, even to the remotest part of our dwellings"

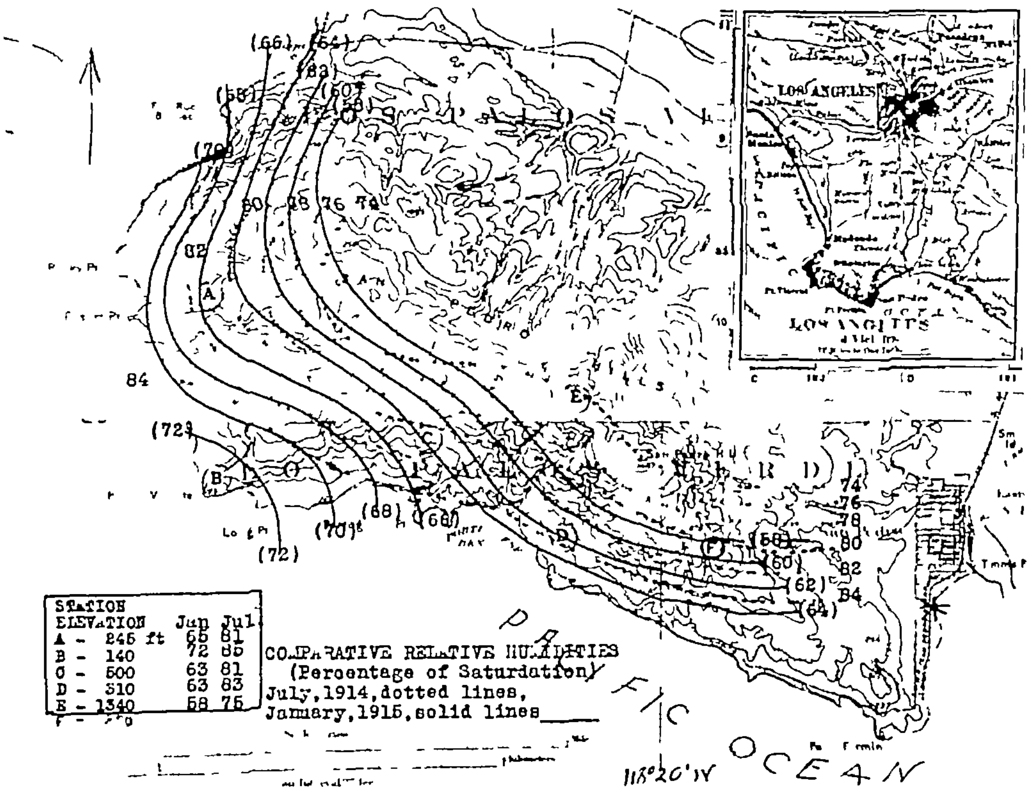


Fig 4—Mean relative humidities for January and July, at Los Palos Verdes, near Los Angeles

PROBLEMS FOR THE CLIMATOLOGIST

Investigation by the Physician—There are other opportunities for the study of health and its relation to climate, as further transactions of this association show In the light of augmented data, a few of them might be, for example, the proper selection of sanatorium sites, sensible temperature (wet-bulb thermometer readings) and infant mortality, acute infectious diseases and sunlight (using the sunshine charts of the weather bureau), etc These are within the scope of the medical profession, the weather bureau, however keenly interested, can assist only with its climatic data

Intensive Studies by the Climatologist—There is one phase of the relationship of the physician to the weather bureau in which the balance of proof falls on the weather service, and that is in the matter of intensive climatic investigation Primarily, owing to the extensive citrus fruit culture in which the United States Department of Agriculture is deeply interested, some of these studies have been taken up in southern California during the past year by the local office of the weather bureau at Los Angeles Indirectly the mass of data is of much value to the medical profession

Southern California is about equal in area to Indiana, and within the boundaries of this region may be found all kinds of varieties of healthful weather This is owing to the mountains, the sea and the desert, as well as the latitude Scattered over this one portion of California are a dozen stations equipped with thermographs and hygrographs, rain gages, etc An examination of the curves of temperature and relative humidity as automatically traced is a most interesting study Two sets of these curves are illustrated in Figure 2 They show simultaneous tracings of temperature and relative humidity during a week in June One of these stations, Los Angeles, is within 10 miles of the sea and shows lower range in temperature and higher relative humidity, and the other, Riverside, which is 55 miles further east toward the desert, illustrates most clearly the influence of the desert in its range in temperature and low humidity, and above all its remarkably regular oscillations Such a graphic representation of the diversity of climate within so short a distance would be well-nigh impossible save in southern California

Intensive Meteorology to the Aid of Colonization and Health—For the first time in history climatic surveys are being made to determine land values This is a practical, business-like, commercial application of meteorology to colonization and intensive farming This climatic survey was begun in June, 1914, on the old Spanish grant of 16,000 acres, the Palos Verdes, which is just south of Los Angeles and between San Pedro (Los Angeles harbor) on the east and Redondo beach on the west Six complete sets of meteorologic instruments comprising standard thermographs, hygrographs, rain gages, anemometers, and a photographic sunshine recorder were erected at various elevations from 100 to 1,300 feet above the sea, and from the seashore to several miles inland The readings of these instruments have been plotted and comparative charts of temperature and humidity for January and July are shown in Figures 3 and 4 With such intensive study it is believed possible to chart the climate for every 10-acre plot The climatic charts will show without error not only proper location of dwellings with relation to air drainage, temperature, humidity, etc, but will give positive information as to soil drainage, and all of this in addition to the all-important agricultural and horticultural feature

WHAT THE WEATHER BUREAU SHOULD DO FROM A PHYSICIAN'S POINT OF VIEW

In closing this paper I feel that a physician friend who has long practiced medicine in one of the towns in California has clearly stated some of the ways the physician may properly claim the assistance of the weather bureau This eminent physician says

---

[7] Nichols, Estes Tr Am Climatol Assn, xxx, 17

> I believe the field has been but little explored We physicians are guilty of many things, among them is guessing If the U S Weather Bureau will prove some of this guessing true or false it will add one more good thing to its past fine record I think that the time is near at hand when our health officers will be required to be specialists They will then have the time, the special training and other equipment to go into the subject in conjunction with your bureau and give us some scientific findings I think the state should be plotted showing the real atmospheric conditions of all localities and showing the influence on the functions of the body Whether the old east wind of Boston is accountable for all of the vile things charged to it or not nobody really knows, but it should be investigated That altitude temperature, humidity, prevailing and unusual winds have much effect on many individuals there is no doubt The nasal and pulmonary mucous membranes are constantly affected by atmospheric conditions Locally I have observed that semichronic bronchial coughs that do not yield readily in the city will often clear up in a few hours in the mountains and foothills east of the city A congested nasal mucous membrane that will kick up a rumpus much of the time in the mountains will disappear promptly at a lower elevation near the coast Some patients with bronchial asthma that is incurable in the business section of the city will be very comfortable a short distance out of town and in a higher, drier location Two hot dry days last month have been charged up with some rather serious pulmonary conditions in aged people These are a few instances of hundreds coming to my mind that I have observed in my years of practice The subject should be worked out by a union of effort of the Weather Bureau and the medical profession

U S Weather Bureau

TARDY OR LATE PARALYSIS OF THE ULNAR NERVE

A FORM OF CHRONIC PROGRESSIVE NEURITIS DEVELOPING MANY YEARS AFTER FRACTURE DISLOCATION OF THE ELBOW JOINT

J RAMSAY HUNT, M D
Consulting Neurologist, New York Neurological Institute
NEW YORK

The type of neuritis which is the subject of this paper is peculiar, in that it develops many years after fractures and dislocations about the elbow joint For this reason it has been termed "tardy" or "late" paralysis Usually, the injury to the joint has been received in childhood, the first symptoms of ulnar neuritis making their appearance in adult life Thus, an interval which may vary from six to thirty-five years elapses between the initial injury and the first symptoms of ulnar neuritis, which are then gradually progressive

This remarkably long latent period excludes the group of cases, not uncommon, in which secondary paralysis follows redundant callus formation, vicious union, or other mechanical complications of fracture which jeopardize the integrity of neighboring nerve structures

The curious, and at the same time characteristic, feature of the late paralysis is its appearance so long after reception of the original injury that a direct connection between the two conditions might be open to question, and a natural skepticism as to the etiologic relationship may lead to diagnostic doubts and errors This is especially true on account of the gradual and progressive atrophy of the small muscles of the hand which is the essential symptom, the sensory disturbance being very slight, or in the earlier stages even absent Under these circumstances, the possibility of progressive muscular atrophy may be seriously considered, and in one case of my series this diagnosis was made by several neurologists of wide experience and training

It is of historical interest to note that Duchenne, the great authority on muscular atrophy and of the hand muscles in particular, confessed that he had once diagnosed spinal amyotrophy in such a case, an error which he subsequently recognized and corrected This little incident of the past, confided to Panas,[1] who first described the condition, will serve to emphasize the special importance of this group of cases from the diagnostic standpoint

The later literature of the subject will receive consideration in the discussion of the symptomatology

REPORT OF CASES

Case 1 —*Fracture of the elbow joint at the age of 5 followed by cubitus valgus and deformity in region of the internal condyle Thirty-six years later without apparent exciting cause, slow development of ulnar neuritis, with atrophy, pain, paresthesias and disturbance of epicritic sensibility limited to the distribution of the ulnar nerve*

History—The patient is a man aged 45, married, and a stock broker by occupation His wife has had three healthy children, no miscarriages He is moderate in the use of alcohol and denies syphilis At the age of 5, he incurred a fracture of the right elbow joint which was treated by the best methods in vogue at that time The joint never regained complete freedom of movement, flexion remaining somewhat restricted, and the internal line of the arm presenting an angular deformity (cubitus valgus) He played baseball however, and indulged in most of the athletic exercises of youth Occasionally, after a strain, he would feel some stiffness and pain in the affected joint, and in later years these symptoms have been especially conspicuous after cranking an automobile

Onset—In the summer of 1912, thirty-six years after the original injury to the elbow joint, he first noticed a slight weakness of the right hand At that time there was no pain, numbness or tingling of the fingers The weakness progressed very gradually, and in August, 1913, he experienced an aching pain in the three ulnar fingers of the right hand with numbness The aching pain was especially localized in the palm of the hand on the ulnar side The weakness was accompanied by a progressive atrophy of the small muscles of the hand, especially apparent in the first interosseous space There was often pain and cramping of the muscles of the hand while writing

Examination —A strong, robust man of good muscular development. Gait and station are normal The pupils are equal and react to light and accommodation There are no tremors, and the tendon reflexes of the upper and lower extremities are equal on the two sides and are of normal intensity The skin reflexes, abdominal, cremasteric and plantar, are also normal, no Babinski

The general motor power is normal, save for the right hand, which is weak and atrophic On holding out the hand there develops the posture typical of ulnar palsy with atrophy of the interossei and hypothenar The thenar eminence is of normal volume. No fibrillary twitchings are apparent at any time. There is complete paralysis of the muscles of the hypothenar, and marked paresis of the interossei The adductor pollicis is paralyzed, as is also the palmaris brevis muscle There is, however, good ulnar flexion of the wrist

The general sensory examination is normal, except for alterations of the epicritic sensibility in the right ulnar distribution There is loss of light tactile impressions over the hypothenar, little finger and adjacent portion of the ring finger of the right hand The pain sense is preserved in this area, but is more intense and diffused than on the sound side The temperature sense is normal There are subjective sensations of pain and tingling in this distribution, but no secretory or trophic manifestations are evident

---

[1] Panas Sur une cause peu connue de paralysie du nerf cubital, Arch. gén de méd., 1878 ii 12

Electric stimulation of the ulnar nerve at the elbow joint produces strong contractions of the flexor carpi ulnaris, but less than on the left side There is, however, no response to either faradic or galvanic currents in the muscles of the hypothenar or the interosseous groups Direct galvanic stimulation of the hypothenar and interosseous muscles (10 ma) induces slow contractions, anodal closure contractions greater than cathodal closure contractions (complete reactions of degeneration)

The Elbow Joint Flexion movements of the elbow joint are somewhat restricted, and there is observed a distinct internal angular deformity (cubitus valgus) Roentgenoscopy reveals an old fracture of the external condyle, together with the resulting cubitus valgus deformity (Fig 1)

The region of the internal condyle is also deformed, and the ulnar groove is shallow and partially obliterated, so that the nerve occupies a comparatively superficial position It is about two and a half times the thickness of the normal nerve, and this spindle-like enlargement may be palpated an inch above and below the internal condyle Pressure on the nerve at this point produces a tingling sensation in the ulnar distribution

Fig 1 (Case 1)—Fracture of the external condyle and valgus deformity of elbow

The urine is normal, the Wassermann reaction is negative, and roentgenoscopy of the neck region reveals an absence of cervical ribs

Comment—This case is of interest because of the exceedingly long interval of thirty-six years which had elapsed between the injury to the joint and the onset of the first symptoms of ulnar neuritis This fact, taken in conjunction with the very slight disturbances of sensibility, and the gradual progressive atrophy of the hand muscles, had given rise to serious doubts in the minds of a number of neurologists as to the real nature of the muscular atrophy, so that medical history repeats itself and the same doubts which Duchenne had experienced regarding this type of case finds its counterpart even in these days of neurologic enlightenment

The deformity of the elbow joint is of the type most commonly associated with the late paralysis, namely an ancient fracture of the external condyle with resulting valgus deformity and alteration of the configuration of the ulnar groove No definite exciting cause could be found to explain the late onset of the neuritis It appeared mysteriously and progressed insidiously without apparent reason, as is the usual history of these cases

CASE 2—*A saleswoman, aged 65, fractured right elbow at the age of 16, fair recovery with insufficient power of flexion At the age of 55, that is, thirty-nine years after the injury, symptoms of ulnar neuritis appeared and progressed gradually, namely, weakness, atrophy and disturbance of epicritic sensibility limited to the ulnar distribution of the hand There is cubitus valgus, the ulnar groove is shallow and deformed, and the nerve is thickened*

History—The patient is a saleswoman, aged 65, who was referred to me with involution melancholia of ten months' duration Except for the occasional presence of rheumatoid pains in late years, she had enjoyed excellent health In childhood the left elbow was fractured, and at the age of 16 she had also fractured the right elbow The latter injury was followed by marked angular projection of the joint (cubitus valgus) and a restriction of flexion which cannot be carried beyond an angle of 120 degrees The movements of pronation and supination are well preserved

For many years she has been saleswoman in a millinery shop, during this period she has done considerable writing but no special handwork such as sewing or cutting

Onset Ten years ago, at the age of 55, she first noticed slight wasting of the muscles of the right hand, which progressed in a very gradual manner From the beginning there had been slight numbness in the ulnar distribution, but at no time pain, either in the elbow joint or along the course of the nerve

Examination—The ulnar nerve on the right side is situated in a shallow groove, and is the seat of fusiform thickening Pressure causes tingling in the distribution of the nerve, but the nerve trunk itself is quite free and movable

The atrophy of the hand is distinctly limited to the ulnar distribution, and is most conspicuous in the first interosseous space, and to a lesser degree in the other metacarpal grooves There is also well-marked atrophy along the ulnar side of the hypothenar eminence and of the adductor pollicis The wasting is also very apparent on the palmar aspect of the hand She can extend, fairly well, the distal and middle phalanges of the right hand, but is unable to separate or approximate the little or ring fingers, or flex the basal phalanges There is slight power of contraction in the abductor minimi digiti Adduction of the thumb is lost, as is also the function of the palmaris brevis There is good ulnar flexion of the wrist

Sensory examination shows a loss of epicritic sensibility to light tactile impressions, in the digital distribution of the ulnar nerve The sensations of deep pain and extremes of temperature are normal There are no trophic or secretory disturbances

Electric Examination There is no muscle response to galvanic or faradic stimulation of the ulnar nerve at the elbow, except ulnar flexion of the wrist The intrinsic muscles of the hand supplied by the ulnar do not react to strong faradic currents, while strong galvanic currents produce vermicular response with reversal of the poles (reactions of degeneration)

Roentgen Examination (Dr A H Busby) Any evidences of early bone injury to the right elbow joint are confused by the changes of osteo-arthritis which are present There is considerable hypertrophied bone in the region of the internal condyle and head of the radius (Fig 2) The left elbow joint shows old fracture of the external condyle, with moderate amount of callus formation There are evidences of hypertrophic osteo-arthritis on the internal condyle and head of the radius Slight evidences of osteo-arthritis are also present on some of the bones of the wrist and hand

The general neurologic examination is negative Pupils react normally and the tendon and skin reflexes are normal Save for the atrophy of the right ulnar distribution, the musculature is well developed and of good power No fibrillary twitchings are noted at any time The urine is free from albumin and sugar

Comment—This case presents the characteristic history and course of the tardy ulnar palsy Unusual is the extremely long latent interval (thirty-nine years) which separates the original injury and the first symptoms of ulnar palsy. Otherwise the clinical picture corresponds to the usual type namely cubitus valgus a deformed and shallow ulnar groove with fusiform thickening of the superjacent nerve trunk and the insidious development of progressive neuritis with preponderance of motor symptoms. In such a case a knowledge of the symptomatology of tardy ulnar palsy is of especial importance in the differentiation of spinal amyotrophy. It is possible that the lesions of osteo arthritis, which were also present may have facilitated the production of the ulnar neuritis.

Case 3—*Fracture of the elbow joint at the age of 16. Six years later gradual development of ulnar neuritis with atrophic paralysis and epicritic anesthesia. Palpation shows cystlike tumor in the ulnar groove associated with enlargement and deformity of the internal condyle. Operation with removal of a cyst. Pathologic diagnosis, chronic bursitis.*

History—The patient is 21 years of age single and a journalist by occupation. He is moderate in the use of alcohol and has had no venereal infection. At the age of 15 he fell from a horse and fractured the left elbow joint. This was a simple fracture and the arm was fixed in flexion. After removal of the splint the joint was stiff for a time but this gradually improved and considerable motion was eventually obtained. His recovery was such that he could play baseball and enter into other sports of similar nature. At times however particularly after sudden and violent movements of the arm he experienced pain and a little stiffness in the joint but never any symptoms which would indicate pressure on or involvement of the ulnar nerve trunk.

Onset. In January 1911 six years after the original injury to the elbow joint he first noted the wasting of the small muscles of the left hand. This was accompanied by a numb pain in the cutaneous distribution of the ulnar nerve. The atrophy and weakness gradually increased. In September, 1911, he consulted Dr George Woolsey, who referred him to me for examination.

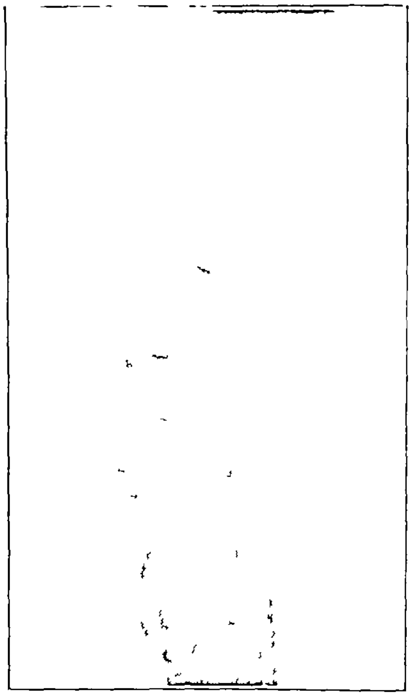


Fig 2 (Case 2) — Valgus deformity of elbow and evidences of bone hypertrophy in part osteo arthritic

Examination—Sept 11, 1911, there is pronounced weakness and atrophy of the intrinsic muscles of the left hand supplied by the ulnar nerve namely the hypothenar eminence and the interossei, including the adductor pollicis. The muscles of the forearm are not atrophied, and no fibrillary twitchings are visible.

On extending the hand and fingers the little and ring fingers remain continuously somewhat flexed, and scarcely any movements of separation or apposition are possible. The ulnar flexion of the wrist is not diminished and all the other movements of the left upper extremity including those of the thenar eminence, are perfectly normal.

Sensation. The epicritic sensibility to light touch is lost over the little finger and adjacent portion of the ring finger in the ulnar distribution. The protopathic sensibility pain and extremes of heat and cold are preserved in this area and there are corresponding sensations of pain and paresthesias.

The movements of the elbow joint are free, except for extension, which is somewhat limited. pronation and supination are normal. The internal condyle is enlarged and is displaced from its normal position. The nerve is palpable in the ulnar groove and beneath it is distinguished a small cystlike swelling. Pressure produces characteristic tingling in the course of the nerve. A general physical and neurologic examination is otherwise negative.

Electric examination shows reactions of degeneration in the atrophied muscles of the hand innervated by the ulnar nerve.

Operation—This was performed by Dr Woolsey, Oct 17, 1911, ten months after the onset of neuritis. A longitudinal incision was made over the olecranon which exposed a firm cystic tumor the size of a hazelnut beneath the ulnar nerve compressing and pushing it forward. During the dissection this cystic formation burst and discharged a yellow gelatinous fluid. The walls of the cyst were smooth, and there was no evident communication with the joint. It was apparently a hernia from the joint synovial membrane which had been constricted. Two minute daughter cysts lay beside the principal one. The nerve was somewhat flattened by pressure, but otherwise was not injured. The wound was closed and healed without accident. The pathologic report of the cyst wall was chronic bursitis.

Note. February 1915, Dr H J Wynkoop, the family physician reported that recovery of function was complete and there had been no recurrence of ulnar nerve symptoms.

Comment—The chief interest of this case is the etiologic factor namely, a small localized cystic tumor originating from the synovial membrane of the joint and compressing the nerve which passed over it. The possibility of such a complication should be considered in cases of late paralysis and its relief by surgical intervention. Not only was there a cyst beneath the nerve, but also the internal condyle was deformed and enlarged, as in so many of these cases, and this may have been a contributory cause in the production of the palsy.

GENERAL REMARKS

These cases illustrate very well the nature of the various joint lesions, the long interval of latency and the general course and symptomatology of the ulnar neuritis in this group of late palsies. As has been previously emphasized, the special and characteristic feature is the long period of time which separates the two phases of the clinical picture, the early injury and the late neuritis.

Another rather curious fact is the special predisposition of the ulnar nerve to this form of palsy, and while it has been observed in the median nerve in one case, in combination with ulnar neuritis (Bernhardt[2]) it is so rare in that distribution as to constitute a clinical curiosity and not a definite clinical type. In other nerve distributions so far as I am aware, it does not occur.

In the case just mentioned recorded by Bernhardt, a woman aged 42 developed atrophy with disturbances of sensibility in the median nerve distribution of the hand, thirty years after an injury of the elbow joint received in childhood, which resulted in a fracture of the head of the radius, cubitus valgus and callus formation about the internal condyle. In this patient, who was a cook, there were also distinct evidences of ulnar nerve involvement, and in view of the great rarity of late neuritis of the median under these circumstances, it is quite possible that the ulnar paresis, by throwing an additional strain on the thenar region, had produced a true occupation neuritis of the median

---

[2] Bernhardt Ueber Medianus Lahmung als spat Folge einer Ellenbogen Gelenk Verletzung Neurol Centralbl 1910 xxix 178

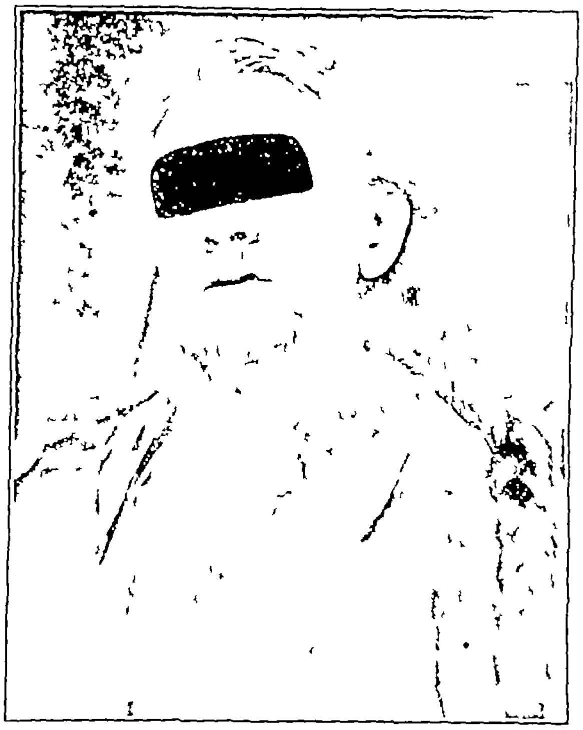
About this time she noticed an increased growth of hair on the upper lip Four years later a beard developed, and she was accustomed to shave about every week There were never any other hypertrichotic changes noticed The family history reveals a similar condition in a daughter, aged 43, who has observed an increased growth of hair on the upper lip for the past thirteen years

Examination—There was an excessive growth of grayish hair on the upper lip and chin and a moderate increase on the cheeks No other anomalies of hair development were present The individual hairs, thickly set, were of coarse, bristly character and measure from 1 to 1 5 cm in length

Bimanually a firm mass was felt in the right pelvis, but it was impossible to define accurately its connections because of the accompanying excessive ascites Remainder of examination was practically negative A probable diagnosis of ovarian cyst was made and operation decided on for the increasing pain, nausea, pulse of 120 and temperature of 101 6 were regarded as symptoms of a twisted pedicle

Operation and Result—Under nitrous oxid anesthesia a suprapubic incision was made and after allowing approximately 3 liters of thin yellowish fluid to escape, a bilobed tumor mass about the size of a fetal head was found The lower lobe occupied the right pelvis, while the other was situated in the right lower quadrant of the abdomen and was attached to the lateral wall The mass was found to arise from the right ovary The pedicle was clamped and cut and the tumor removed Before closing the abdomen it was noticed that everywhere on the peritoneum and intestines were present irregularly shaped, slightly raised whitish areas which were considered as malignant changes, a pathologic condition which accounted for the secondary ascites The patient made a slow but uneventful recovery

The boggy tumor was covered by connective tissue and lined by ciliated columnar epithelium Within was a thick, viscid, brownish, semifluid substance containing grayish hair and some whitish flakes similar to those found at times in amniotic fluid No bone or nails were found A pathologic diagnosis of dermoid cyst was made


Patient with marked facial hypertrichosis

The observation that abnormal hair development associated with anomalies of menstruation dates back to ancient times, and while with advancing years it was fully agreed that such a connection does exist, it has not been until recent times that an effort was made to determine just what the nature of this association is Scheuer's[1] observations on twenty-five women showing hypertrichosis illustrate this point nicely, for fifteen had amenorrhea, six had dysmenorrhea, and four showed metrorrhagia

A few introductory remarks may be of worth regarding the growth of hair, which, according to Scheuer, develops in three stages, namely, the woolly, the children's and the terminal

Excepting those places (palms and soles) which remain hairless throughout life, there develops during fetal life over the entire body the woolly hair which is marked by its soft texture and lanugo character In addition to the former a growth of thick, coarse pigmented hair develops on the head and eyebrows at about the eighth month of intra-uterine life So at birth children's hair is marked by irregularities in growth, displaying a general lanugo development with localized coarse additions This children's hair retains its purity until puberty, when in males the terminal hairs develop in the axilla and on the pubis, cheeks, lips and chin In the female, however, terminal hair is confined to the axilla and pubis, the remainder being of the childish character Thus it is in women that deviations of hair formation must be considered pathologic, for the nonappearance of terminal hair shows a persistence of childish characteristics, and an excessive amount, resembling the male type, represents a local hermaphroditism or hypertrichosis

As the development of terminal hair occurs at the time of sexual ripening it is but natural to think of a connection between the two So Friedenthal believes that waste products of metabolic activity of the sex glands have an effect on the growth of the terminal hair Ikeli states that catabolic products, circulating in the blood shortly before the time of sexual ripening, reach the skin and there call forth the growth of hair Still, as Scheuer says, while theories are numerous little is really known, but it appears probable that the glands of internal secretion have an intimate connection with these phenomena

Thus the ripening of the sex glands has been generally accepted as being the cause of the appearance of secondary sexual characteristics This view applies primarily to the changes at the time of normal puberty, but in addition pertains to cases of premature development, as was noted by Lesser[2] (case of well-developed patient aged 6 who menstruated first at her third year), by Glynn[3] (hypernephromas in children), and by others Halban,[4] however, from his observations on cases of aplasia of the sex glands and in hermaphroditism, has come to an opposite conclusion, that is, that the existence of secondary sexual characteristics is not connected with the presence of homologous sex glands Rather, he says, we must assume that the same factor or factors which determine sex must in a similar way be responsible for the formation of the primary and secondary sex characteristics Von Lenhossek[5] takes a similar though less positive view, namely, that secondary sex characteristics are deeply founded and develop according to inherited laws, but, nevertheless, for the complete formation of these characteristics, the corresponding sex glands have a so-called protective action In this sense a well-functioning testicle is important for the growth of terminal hair on the face, and a well-functioning ovary is important for the limitation of such hair to the axilla and pubis Conversely, we see cases of retarded development of secondary characteristics when the testicles are either poorly developed or poorly functioning Also, when the ovarian function is at a low ebb, as in sterile women, women at the menopause, and in women whose menstruation is imperfect, we see hypertrichotic changes due to a derangement of the protective action of the ovarian secretion So the views of von Lenhossek are a matter of not uncommon observation Why men should have a facial growth of terminal hair, and why in women it is normally restricted to the axilla and pubis are attributed by Darwin through evolutionary changes to sexual selection

---

[1] Scheuer Hautkrankheiten sexuellen Ursprungs bei Frauen, 1912

[2] Lesser Ztschr f klin Med, 1900, xli, 122

[3] Glynn, F Quart Jour Med 1912 v, 157

[4] Halban, quoted by Cohn, F Monatschr f Geburtsh u Gynak, 1913, xxxviii 93

[5] Quoted by Scheuer (Footnote 1)

The older view, that secondary sexual characteristics are due to the ripening of the sex glands, is tenable for the reason that in practically all cases such changes develop normally This theory, however, cannot be accepted in toto, for, after Halban's reports on cases of aplasia of the sex glands, we see that there must necessarily be other factors concerned Von Lenhossek's views also seem quite plausible that sex characteristics develop after deeply founded inherited laws Still, while accepting the reasonable view of hereditary influence, it seems more probable with our present knowledge that derangements of the glands of internal secretion play a large part, for it is now well known that glandular changes, as suprarenal and pineal neoplasias, occasion or at least are closely connected with the development of sexual characteristics

Deviations from the normal female sex characteristics will now be considered especially as regards abnormal hair development

Among the earliest causative factors of hypertrichosis were mentioned uterine reflex, pelvic disease, irritation, congenital anomalies and heredity As examples of congenital anomalies are uterus duplex (Hegar[6]), uterus unicornis (Freund[7]), uterus infantilis (Hilbert[8]), and infantile pelvis (Hildebrand[8]) Of course we now know that such conditions are concomitant features rather than causative factors Heredity, however, must be taken into consideration, for Lesser[5] reports three cases (in sisters) all of which showed distinct hypertrichosis

Next were reported cases whose causation was attributed solely to ovarian changes, as bilateral cystic ovaries (Roten[5]), ovarian tumor (Alberti[9]), and enlarged ovary (Lesser[10]) Soon, however, cases with an entirely different etiology were recorded, namely, hyperplasia of the suprarenal (Bortz[5]), pineal tumor (von Frankl-Hochwart[5]) and hypophysial tumor (Hochenegg[5]) Thus it is, as Scheuer says, that our ideas must be modified and derangements of the glands of internal secretion be considered as factors in the etiology of hypertrichosis

The cases of Thumin,[11] Bortz and Goldschwend[5] show that suprarenal changes are intimately connected with abnormal hair formation and genital changes, either wholly or partially as causative factors Their cases show uterine and ovarian atrophy accompanying hypertrichosis That the connection between the suprarenal and the genitals is a true one and not one of mere coincidence has been proved by von Theodosieff,[12] who has shown suprarenal hypertrophy subsequent to ovariectomy in dogs Further, it is also known that the suprarenal is in some way functionally connected with sexual development, for it increases in size during menstruation and in pregnancy, it is decreased in volume when accompanied by defective sexual development, and tumors of it are associated with precocious sexual growth, overgrowth of fat, and with an increased hair formation

Among the first who devoted their efforts toward determining the association between the suprarenal and the development of sex characteristics, Bullock and Sequeira[13] stand out as pioneers From their observations they reached the conclusion that the premature development in children of the beard and pubic hair is accompanied by the premature ripening of the sex organs In such cases they found suprarenal changes either of a hyperplastic or a neoplastic nature, the latter being carcinomas or hypernephromas In addition they found the reverse to be true, that suprarenal atrophy is associated with defective genitalia and failure of development of the pubic hair It should be added that they did not invariably find these changes present, for lymphosarcomas were often not accompanied by premature sexual development

Apert[14] next showed that the manifestations of suprarenal hyperplasia or neoplasia vary with the age at which such changes occur Thus in infancy he noted hypertrichosis in cases accompanied by a hypertrophied clitoris, a small uterus, and poorly developed ovaries Up until puberty the triad symptoms were seen — hypertrichosis, adiposity and sexual changes (premature development and precocious puberty) After puberty the cases showed abnormal hair development, adiposity and arrest of menstruation Late cases were accompanied only by adiposity

Glynn made similar observations, and found that in children with hypernephromas there is a tendency of the male primary and secondary sexual characteristics to increase at the expense of the female With males the reverse does not hold true He advanced a step further and showed that it is the cortex which is so intimately concerned Glynn also shows that it is the suprarenal involvement per se which occasions the altered features and not the neoplasm, for hypernephromas of the kidney never lead to modified facial changes

It is now only natural to ask if all cases of corticosuprarenal hypertrophy, benign or malignant, are invariably accompanied by the development of male characteristics and precocious growth in female children Glynn was able to find only one case not associated with such changes When hypernephromas occur in adults, before and after the menopause, the changes are of course not so marked as in children, but, as he says, this does not necessarily negative the view that hypernephromas either directly or indirectly occasion such changes, for here as in other pathologic conditions, the same lesions do not invariably produce the same results Also after the menopause, sex characteristics have become stereotyped through age and so cannot exhibit prominent changes

Recently Pinard, Launois and Gallais[15] reported a peculiar case of a patient, aged 19, in whom hypertrichosis was accompanied by dystrophy adiposogenitalis similar to the syndrome of Frölich At necropsy the ovaries, tubes and uterus were small, but the left

---

[6] Hegar Beitr z Geburtsh. u Gynak 1901 iv, 21
[7] Freund Beitr z. Geburtsh u Gynak. 1900 iii 181
[8] Quoted by Hegar (Footnote 6)
[9] Alberti Beitr z. Geburtsh u. Gynak 1905, ix 339
[10] Lesser Lehrbuch der Haut und Geschechtskrankheiten.
[11] Thumin Berl klin Wchnschr 1909 xlvi 103
[12] Quoted by Thumin (Footnote 11) and by Scheuer (Footnote 1)
[13] Quoted by Glynn (Footnote 3)
[14] Apert Bull med Paris 1910 xxiv 1161
[15] Pinard Launois and Gallais Gaz. d. hôp, Paris 1911 lxxiv 649

suprarenal was involved by a large epithelioma The pituitary was normal, thus excluding the possible hypophysial origin of the genital dystrophy So here we have a case of suprarenal neoplasia exhibiting marked genital changes after the age of puberty, thus differing from the usual types as described by Apert and Glynn

Now that it has been shown that a connection does exist between the corticosuprarenal hyperplasia and the sex glands, it may be asked, What is the primary cause of altered sexual characteristics? Are the suprarenal hyperplasias the primary cause? Do the sexual changes occasion the former? Or do both arise from a common origin?

On this point there is naturally a diversity of opinion varying between a suprarenal and an ovarian primary etiologic factor Goldschwend believes that the development of secondary masculine characteristics is due to an excessive suprarenal secretion which overcomes that of the ovary This theory is tenable because atrophic ovarian changes were found in cases of suprarenal hypertrophy It is further substantiated by a case reported by Thornton[16] in which excessive hair disappeared after the removal of a suprarenal tumor Apert holds the same view, for he states that while genital changes are observed in derangements of other glands of internal secretion, hypertrichosis is particularly characterized by accompanying lesions of the suprarenal

On the opposite side are Scheuer, Hegar and others who believe that in hypertrichosis there is always in the ovary a primary change, for example, atrophy, which leads to secondary changes in the suprarenal and hypophysis, and later to the development of secondary masculine characteristics Or, as is more plausible, the diseased ovaries are not able to hinder the appearance of these abnormal sex features This view has an analogous basis in some work of Tandler and Gross,[17] who found experimentally that the interstitial substance of seminiferous tubules seems to occasion the secondary sex characteristics

The more probable cause is, as Glynn says, a derangement of the glands of internal secretion, for while it is now certain that there exists an intimate connection between sexual characteristics and suprarenal changes, it is further true that other glands are likewise associated and that the real solution will be found only when the interrelationship of these glands is better understood

Next will be considered the connection between the hypophysis and the genital glands Tandler and Gross noted in animals an increased hypophysial growth following ovariectomy and an increase during pregnancy due in the latter condition to the multiplication of the chromophobe or clear cells, according to von Bonin[18] Cushing[19] observed that in dogs, removal of the anterior lobe is often succeeded by shedding of hair, lessening of sexual activity and atrophy of the ovary or testicle Conversely, hypertrichosis follows anterior lobe hyperplasia

Thumin, Bychowski[20] and others have observed that in man hypophysial tumors are often accompanied by poorly developed genitals and that amenorrhea is usually an early symptom of pituitary neoplasm That such tumors do have an intimate connection with the menstrual cycle is shown by Thumin, Hochenegg and Exner,' who report cases in which there was a return of the menses after extirpation of the tumor

According to Cushing, it is in anterior lobe deficiency that we find such changes as persistence of infantile sexual characteristics when hypophysial neoplasm occurs during childhood, or, in later years a tendency toward the loss of the acquired signs of adolescence To this same category belongs Frolich's syndrome of dystrophy adiposogenitalis, whose exact etiology is as yet unsettled, as evinced by the numerous theories, as those of Frolich, von Erdheim, B Fischer, Stumme and Cushing, but, nevertheless, some hypophysial lesion is universally accepted as being the fundamental cause

As a rule, hypophysial lesions are accompanied by symptoms *in direct antithesis* to those obtained in suprarenal hypertrophies, as in poorly developed as contrasted with highly developed secondary sexual characteristics, and *hypotrichosis rather than* hypertrichosis While, however, the latter is usually true, it is not invariably so, for Hochenegg and Exner observed hypertrichosis *in their cases of pituitary neoplasm*, and also that the anomaly of hair formation disappeared after operation Why hypertrichosis appears in some cases of hypophysial lesion and not in others may be explained according to Cushing's theory, which, consisting in a functional differentiation of the two lobes, attributes hypotrichosis to an anterior lobe hyperplasia and hypotrichosis to posterior lobe deficiency

So while genital changes, usually of a hypoplastic nature, are seen to be occasioned or at least accompanied by hypophysial alterations, the variance *in the* secondary sexual characteristics here, as *with the* suprarenal, speaks more not only for an interglandular relationship, but also for some complete relationship between the two lobes of the hypophysis

From the previously mentioned case (pineal tumor) of von Frankl-Hochwart, we see that the comparatively little thought of pineal gland must have a place in the development of sexual characteristics, for in his patient were noted overdevelopment of the genitalia, sexual precocity and early hair formation Others have observed similar cases, the tumors being sarcomas, gliomas, teratomas and cystic psammosarcomas

Kidd,[21] basing his ideas on a review of the literature on the pineal gland, believes that it must have some function and is a metamorphosed rather than a rudimentary organ To it he ascribes a prepuberal function which consists in the inhibition of premature genital development and sexual characteristics, a function which disappears at the time of sexual ripening, thus allowing the postpuberal changes to develop If this be true it is then but natural to conclude that the pineal function is decreased and finally nullified by the increase and maturity of the genital secretion Kidd's ideas are based largely on clinicopathologic observations and are further substantiated by the experimental work of Foa[22] The latter showed that in chicks, aged from 3 to 5 weeks, there was a premature development of the primary and secondary sexual characteristics succeeding pineal removal With our experimental knowledge as a foundation, attempts are now being made in some of the Chicago public schools to stimulate the physical and intellectual development of subnormal children by the use of pineal gland extract, but so far no results have been published Dana and Berkeley, however, working along the same line, have reached the conclusion that pineal gland given early enough leads to increased general, intellectual and sexual growth

---

[16] Thornton, cited by Richards, O Guy's Hosp Rep, lix, 217

[17] Tandler and Gross Wien klin Wchnschr, 1910, xx, 459, also quoted by Scheuer (Footnote 1)

[18] Von Bonin Quart Jour Med, 1913, vi, 125

[19] Cushing, Harvey The Hypophysis Cerebri, The Journal A M A, July 17, 1909, p 249

[20] Bychowski Deutsch med Wchnschr,

[21] Kidd, L J Rev Neurol and Psychiat, 1913, xi, 55

[22] Foa Arch ital de biol, Turin, 1914, lxi, 79

In conclusion, as Kidd says, it is highly probable that there exists some relationship between the pineal gland and secondary sexual characteristics and that probably a connection exists between it and the pituitary and suprarenal cortex, and possibly with the thyroid, thymus and ovaries

Ovarian changes, cysts and neoplasms, seem to demonstrate a connection between the ovary and secondary sexual characteristics, as in the cases of Freund and Alberti These occurred well after puberty and were accompanied by marked hypertrichotic changes, but similar conditions were observed by Lesser in a patient who menstruated first at her third year and who at the fourth developed a strong generalized growth of hair

While it is seen that altered ovarian states are at times accompanied by abnormal characteristics, such changes as the latter are a rarity, judging from the many cases we see of cystic degeneration and neoplasms, and we must conclude that other glands play a large part in such altered states What part of the ovary is connected with these deviations is theoretical, but by analogy, the previously mentioned views of Tandler and Gross may be thought of, or the ideas of McIlroy, who looks on the lutein cells as having the most active influence on the body by reason of their blood pressure raising property

We now know that the thyroid is closely associated with sexual activity, for in deficient secretion sexual desire is frequently lost, and amenorrhea is often a concomitant symptom Amenorrhea is also a common sign in increased secretion, so, as with the hypophysis, altered thyroidal secretions are succeeded by a similar menstrual disturbance Additional evidences of a functional connection are seen by an increased growth of the thyroid gland during puberty, menstruation and pregnancy, a time when heightened sexual activity is present Regardless of whether it is the altered ovarian secretion which influences the thyroid or vice versa, we have been unable to find, except in cretinism with its infantile genitalia, cases of thyroidal deviations accompanied by the markedly changed sexual characteristics so frequently observed in suprarenal, and, less often, in pineal neoplasms

The thymus, like the thyroid, does not seem to be so intimately connected with sexual characteristics, but does have some association, as it is persistent in eunuchs Possibly like the pineal it has a limited prepuberal function

SUMMARY

From a review of the data, one may ask, What is the fundamental cause leading to those marked variations in sex characteristics? In reply I will say that it is evidently a disturbed pluriglandular equilibrium, for at times we see a suprarenal causation, at others a pineal, and occasionally a hypophysial According to Falta,[23] these glands form a connected system, therefore it is to be expected that just as is the case in the hematopoietic system, a pathologic system, a pathologic process which becomes established in one part will cause disease to a greater or lesser extent in the other As he explains it, the internal secretion of one gland reaches another through the circulation, and there either directly increases or inhibits functional activity, or increases or decreases its efficiency, or, again, it reaches the central nervous system, and there produces impulses which indirectly influence the secretory cells Dennison[24] offers a similar explanation in that the hormones act through the blood on the nervous system, which in turn arranges and distributes impulses to the ductless glands, for example, action of epinephrin on the nervous system

The function of the suprarenal, pituitary, pineal and thymus act in an inverse proportion to that of the ovary, or, as Dennison says, in a compensatory or synergistic manner For with hypertrophies of the former we see atrophy of the latter Thus Goldschwend's case of suprarenal hypersecretion was followed by ovarian atrophy and menstrual cessation, and Thumin's case of bilateral suprarenal involvement was succeeded by similar conditions The clinical reports of Thumin and Bychowski illustrate the hypophysial relationship The theories of Biach and Hulles show the pineal association, and the thymic hypertrophy subsequent to castration demonstrates the thymo-gonadial connection Such a synergistic action exists not only between the ovary and this group of glands, but also between these glands themselves, for there is a pituitary hypertrophy following thyroidectomy, and acromegaly with suprarenal atrophy

The thyroid and ovaries, on the other hand, have an antagonistic or neutralizing action on each other, for their functions vary in direct proportion, that is, the thyroid hypertrophies when the ovaries are most active, as in puberty, pregnancy and menstruation

If we accept such an interrelationship, it is justifiable to assume that the suprarenal is the gland principally concerned with sexual characteristics, the pineal next, and then the hypophysis, ovary, thymus and thyroid, in order of importance That one functionally imperfect gland alone is unable to produce marked hypertrichotic changes is seen by a case, reported by Pitt, of four suprarenal capsules, by cases of hypophysial lesions, and by numerous cases of ovarian cysts, the great majority of which never are accompanied by hypertrichosis Rather we must conclude that at the basis must be some profound and complex disturbance of the antagonistic and synergistic pluriglandular equilibrium

5 South Wabash Avenue

---

[23] Falta Am Jour Med Sc 1909 cxxxvii 496

[24] Dennison Colorado Med Jour 1912, ix 65

Fresh Air and Chronic Laryngeal Stenosis—An experiment with good results is reported in the bulletin of the New York Department of Health Eighteen children with chronic laryngeal stenosis, compelled to wear tubes from two to eight years, were sent during the summer from the Willard Parker Hospital to the Otisville tuberculosis sanatorium, where they were given outdoor life on the farm. Physicians and nurses were in constant attendance None of these children were able to go without the laryngeal tube for more than two months at a time. At the end of the first month in the country all but four children were able to go without tubes, and nearly half gave no evidence of difficulty in respiration September 25, eighteen of them did not wear tubes Two months later thirteen were still without tubes and appeared to be cured The hospital authorities will provide quarters at Otisville for these children, at least during the spring summer and autumn

INTRAMUSCULAR INJECTIONS OF WHOLE BLOOD IN THE TREATMENT OF PURPURA HEMORRHAGICA *

H W EMSHEIMER, M D
Chief of Clinic, Department of Internal Medicine, Mount Sinai Hospital Dispensary
NEW YORK

Sixteen hours after the injection of fresh whole blood into the deep muscular tissues of a patient suffering from a severe progressive purpura hemorrhagica, improvement was so marked as to alter the prognosis from doubtful to favorable Despite the possible *post hoc ergo propter hoc* criticism, it is safe to assume that the sudden change from a persistent marked hematuria of seven days' duration to the passage of a clear urine, and the cessation of hemorrhages into the skin and mucous membranes a few hours after the injection of whole blood, were in this case directly due to the atment

ıe therapy of all forms of blood disease, whether ary — dependent on some inherent fault of the ıatopoietic organs, or secondary — dependent on toxic, bacterial or other factors, is still in its infancy A contribution to any phase of this subject, especially if based on the actual results of treatment as well as on theoretical considerations, should therefore be of value

Purpura hemorrhagica, or morbus maculosus Werlhofii, has been found to be associated in most cases with a deficiency in the number of platelets in the circulating blood Whether this "essential thrombopeny"[1] produces the symptoms of the disease, or is itself secondary to some causal agent still unknown, is, of course, the vital issue Considering the deficiency in blood platelets as the important factor, the rational therapy in purpura hemorrhagica would be to supply to the circulation the lacking element It is a well-recognized fact in hematology that when a foreign blood is to be supplied, the fresher the injected or transfused blood, the more efficient the results Administration of the extract of plood platelets[2] (the coagulen of Kocher-Fonio) theoretically fulfils the first requirement, that of supplying the deficient element, but lacks the second requirement, the quality of freshness Transfusion of blood, by any of the various methods in vogue, fulfils both essentials but requires preliminary agglutination and hemolysis tests Subcutaneous injection of human serum, rich in platelets, possesses a drawback, in necessitating delay while the blood is standing or centrifugalizing These disadvantages may be obviated and the same if not more in the latte results expected, in selected cases, by chromophobe or ubcutaneous or better, intramuscular[3] Cushing[19] observ le blood It was because of this line anterior lobe is of use injection of blood is considlessening of sexual generation of thromboplastic subor testicle Converse ction of whole blood intramuslobe hyperplasia nd rapid compared with trans-

Thumin, Bychowski[2] in man hypophysial tum poorly developed genita

fusion and other methods, and also because several observers have reported good results with this form of therapy, that it was decided to employ it in the case to be cited, after the ordinary drugs and the usual modes of treatment had failed

REPORT OF CASE

History—The patient, C S, was a boy, aged 5½ years The family history was carefully investigated for the existence of a possible blood diathesis, but there had been no purpura, hemophilia or other abnormal blood condition The previous history of the child was absolutely negative, except for the occurrence of measles, two years before the present illness There had never been any previous similar complaint or any tendency to prolonged bleeding from a cut or other wound, there had been no nose bleeding, no hematuria, no tendency to bruising of the skin, and no rheumatism

Present Illness—The first sign of illness was the appearance of a mild macular eruption on the chest, neck and abdomen of the child which rash, the mother said "looked like measles," but which was not accompanied by fever, coryza or malaise Three days after the onset, there was slight bleeding from the gums The macular eruption began to fade somewhat in five days at which time the child was permitted to get out of bed must next day, after a fall on the knees, the patient developed such several large ecchymotic spots, at the site of the trauma During the next few days, several more ecchymotic spots appear omaly of ha body, and the character of the rash changed fr Why hypert papular and hemorrhagic There were no pains, fever or abdominal crises physial lesion and

Physical Examination—I saw the patient, for the first time, on the tenth day of his illness That morning the child had cried out suddenly from pain in the pubic region and then had voided, with considerable distress a large quantity of almost pure blood On examination, I found the child covered with petechiae, larger purpuric spots and ecchymoses There was hardly one square inch of skin which did not show some evidence of the hemorrhagic tendency The spots seemed to have no particular predilection for the neighborhood of the joints There were numerous petechiae in the conjunctivae and on the mucous membrane of the mouth Blood was oozing from the urethra There were crusts in the nose from previous bleeding The general condition of the patient was good There was a slight fever, 100 F, and slight anemia, but no prostration and no distress except when the child voided On these occasions, which were frequent —every ten or fifteen minutes—the pain was terrific, the little fellow would cry out in distress, and beads of perspiration would roll from his forehead at each jet of pure blood from the urethra The physical examination was otherwise negative except for a slight murmur over the base of the heart The spleen was not enlarged There were no enlarged glands There were no signs of joint inflammation

Treatment and Subsequent Course—After the immediate sedative treatment, the usual remedies reputed to be of benefit in bleeding cases were administered Calcium lactate in large doses, epinephrin, arsenic and codein were all given a fair trial Absolute rest in bed, a bland diet, gelatin and an abundance of fresh fruit juices were insisted on

For a week, expectant treatment was followed During that time, the general condition of the patient became somewhat worse The hemorrhages in the skin and mucous membranes increased in number, while a few spots faded, many new ones constantly appeared The urine, voided very frequently, continued to be full of blood, both fresh and clotted, the hematuria being so marked as to give cause for grave anxiety At no time were there any other visceral manifestations There was never any macroscopic or microscopic blood in the feces There were never any casts in the urine Ophthalmologic examination failed to reveal any retinal hemorrhages The hemoglobin fell from 80 to 55, the erythrocytes from 4,200,000 to 3,600,000 The leukocytes numbered 7,200 on one occasion, 6,800 on another The differential count was normal, the polynuclear cells averaging about 60 per cent

---

n Medical Society of New York City,
Thrombopenie, Berl klin Wchnschr,
Koagulen (Kocher Fonio), Beitr z

16 Thornton, cited by Richards, The Rate of Absorption from Intra
17 Tandler and Gross Wien kli 190, viii, 59) showed that absorp
quoted by Scheuer (Footnote 1) greater rapidity than from subcu
18 Von Bonin Quart Jour Med vy confirmed this observation
19 Cushing, Harvey The Hypo die Resorption des Diphtherie
A M A, July 17, 1909, p 249
20 Bychowski Deutsch med Wchnschr, *1911, lxx, 69)*

There was no anisocytosis or poikilocytosis Certain objections were raised to the frequent taking of blood for thorough and systematic examination of the blood platelets, so that investigation along this line was not attempted The coagulation time was normal—from five to six minutes The bleeding time[4] was ten minutes, somewhat beyond the normal limits

In addition to the drugs mentioned above, coagulen in gram doses was given by mouth, but failed to check the hemorrhagic process It was not tried subcutaneously or intravenously Subcutaneous injections of 10, 20 and 30 c.c, respectively, of horse serum were administered without the least evidence of improvement In the presence of the steady progression of symptoms, despite treatment, it was then decided to adopt a more radical method of therapy

Injection of Whole Fresh, Human Blood—Twenty c c of blood were withdrawn by means of a record syringe (lubricated with sterile petrolatum) from the median cephalic vein of a relative whose Wassermann test had been reported negative and were immediately injected into the gluteal region of the patient Because of the possibility of clotting within the syringe the time-saving element became an important factor in the technic, a second needle had been previously inserted into the tissues of the patient, therefore, it was necessary merely to discard the needle used in the withdrawal of blood from the donor, connect the blood-containing syringe with the needle in the tissues of the recipient and inject There was not the slightest evidence of clotting in the syringe, after this procedure

There were no untoward effects either local or constitutional as a result of the treatment About twelve hours after the injection, the urine, which for seven days had been dark brown, almost black at times became much lighter in color Four hours later that is sixteen hours after the injection, the child voided urine which to the eye was perfectly clear and which even microscopically contained only a few red blood cells During the remainder of that day, the urine voided was again smoky but was much lighter than before the injection The following day, several clear specimens were voided From that time, improvement became more and more marked, until at the end of ten days from the date of injection, no specimen, voided at any time during the day contained even microscopic blood The improvement in the skin condition although less striking was just as steady and as marked An occasional new crop of petechiae or a fresh ecchymotic spot would appear, but the great majority gradually faded Attempts to walk or to allow the legs to hang down for any length of time would occasionally produce fresh hemorrhages, but this tendency also gradually disappeared, so that six weeks after the onset of the disease the patient having had no further blood injections all evidence of the hemorrhagic diathesis had entirely disappeared[5]

COMMENT

Whether recovery would have occurred, in this particular instance, under expectant treatment only, is questionable, regardless of the fact that spontaneous cures in this disease are not infrequent It is not logical to assume that the sudden cessation of the progressive hemorrhagic tendency, a few hours after the treatment as described above, was purely coincidental

Although not the first time this method has been used successfully, the records of previous trials in this particular disease are rare In a man aged 20 years, suffering from purpura hemorrhagica, Howard[6] reported good results from the use of whole blood in large amounts He gave from 28 to 90 c c of blood in a series of four injections, over a period of six days, on two occasions employing two donors Peterson[7] injected 20 c c of whole blood in a patient with purpura hemorrhagica, while waiting for the hemolysis and agglutination tests, preliminary to a transfusion by the Lindeman method[8]

Injection of whole blood has not, by any means, been confined to the treatment of purpura hemorrhagica Schloss and Commiskey,[9] beginning their studies in 1908, reported good results with this procedure in several cases of hemorrhage of the new-born Curtis,[10] employing the injection of whole blood especially for uterine hemorrhages, suggests that it should prove of great value in any hemorrhage of moderate severity, where bleeding has not reached the point of exsanguination, and believes that its repeated use in chronic anemias, wasting diseases and infections might prove even more efficient than transfusion Zingher[11] makes use of convalescent and normal whole blood in the treatment of scarlet fever, and advises its employment in other infections and in blood diseases, and Kaiser[12] reported excellent results in a case of severe erysipelas after the injection of whole blood from a convalescent erysipelas patient Injections of defibrinated blood have also been used successfully in severe cases of anemia

Of the other methods reputed to be of benefit in purpura hemorrhagica, subcutaneous injections of coagulen (Kocher-Fonio[2]), of sterilized gelatin, of Witte's peptone,[13] and of animal[14] and human blood serum, intravenous injection of human serum, and transfusion[15] by any of the various methods[16] now in vogue are the most important Frank[1] employs intravenous injection of large amounts of normal human blood serum After preliminary tests, from 400 to 500 c c of blood from the donor are received in a vessel, covered with enough leech extract to prevent coagulation (10 mg herudin to 75 c c blood), placed on ice or slowly centrifuged, and the plasma drawn and infused into a vein of the patient This method and transfusion of either ordinary or citrated blood are perhaps the ideal measures when the patient is almost exsanguinated, or when the disease is rapidly progressive and fulminating But taking into consideration the time and skill required to make preliminary tests as well as to perform the transfusion itself, it would seem most rational to employ first, in every case associated with this blood diathesis, the simple method of *intramuscular injection of fresh whole blood* reserving the more complicated methods for emergencies or when several trials of the simpler measure have proved of no avail If repeated injections should be desired, without withdrawing the blood a second time from the donor, it would be simple enough, inasmuch as citrated blood remains fluid for several days, to take a large quantity of blood from the donor at one time, citrate it, and inject from every twelve to twenty-four hours for two or three days

---

[4] Duke W W The Pathogenesis of Purpura Hemorrhagica with Especial Reference to the Part Played by Blood Platelets Arch Int Med November 1912, p 445

[5] At the present date—three months after the cessation of all hemorrhages—the patient is perfectly well having had no sign of a recurrence

[6] Howard C C Purpura Hemorrhagica Treated with Subcutaneous Injections of Pure Blood Kentucky Med Jour 1914 xii, 606

[7] Peterson E W Purpura Hemorrhagica Treated by Blood Transfusion, Post Graduate, New York 1914 xxix 499

[8] Lindeman Edward Simple Syringe Transfusion with Special Cannulas a New Method Applicable to Infants and Adults Am Jour Dis Child July, 1913 p 28

[9] Schloss O M, and Commiskey L J J Spontaneous Hemorrhage in the New Born Am Jour Dis Child April 1911, p 276

[10] Curtis A H The Treatment of Hemorrhage by Injection of Blood The Journal A M A, Jan 23 1915, p 332

[11] Zingher Abraham The Use of Convalescent and Normal Blood in the Treatment of Scarlet Fever The Journal A M A Sept 4 1915 p 875 A Simple Syringe Method for the Transfer of Blood from Donor to Recipient Arch. Pediat 1914 xxxi 912

[12] Kaiser A. D Case of Erysipelas Treated with Whole Blood from Convalescent Patient Arch Pediat 1915 xxxii 519

[13] Osler and McCrae Modern Medicine Ed 2 Philadelphia Lea & Febiger 1913 ii 728

[14] Weil P E Des injections de sérums sanguin frais dans les états hemorrhagipares, Tribune med. Paris Jan 12 1907

[15] Ottenberg, R and Libman, E Blood Transfusion, Indications, Results General Management, Am Jour Med Sc. 1915 cl 36

[16] Lindeman (Note 8) Weil Richard Sodium Citrate in the Transfusion of Blood, The Journal A. M A. Jan 30 1915 p 425 Lewisohn R. Blood Transfusion by the Citrate Method Surg Gynec. and Obst 1915 xxi 37 Unger L. J A New Method of Syringe Transfusion The Journal A M A, Feb 13 1915 p 582

No less instructive than the therapy of purpura hemorrhagica is the experimental and laboratory work done in recent years, leading to a more complete knowledge of the pathogenesis and nature of this disease As early as 1887 Deny observed a reduction in the number of blood platelets in purpura hemorrhagica Somewhat later Hayem, and since then various other workers in this field, have corroborated Deny's discovery The normal number of blood platelets is variously estimated as between 200,000 and 300,000 per cubic millimeter[17] In Duke's[4] series of purpura patients the blood platelet count was below 10,000 in the severe, and between 20,000 and 65,000 in the mild cases, a decided reduction from the normal

Experimenting with animals, Ledingham[18] produced a condition resembling purpura in guinea-pigs by inoculation of an antiserum prepared by immunizing rabbits with guinea-pig blood platelets Duke[4] produced a similar condition in rabbits and incidentally decreased the number of blood platelets by repeated injections of diphtheria antitoxin and of benzol He concludes that the condition may apparently be caused by any agent which reduces the platelets to a sufficient degree That purpura depends in great part on a deficiency in the number of platelets in the circulating blood is shown by the fact that transfusion benefits, and the improvement persists, as long as the platelet count is at a high level, but the symptoms return if the platelet count again falls sufficiently low[4]

Hayem has described a remarkable and interesting phenomenon[19] occurring in practically all cases of purpura hemorrhagica Normally, a blood clot quickly retracts from the sides of the vessel in which it is contained, and expresses serum The clot in purpura hemorrhagica does not retract, nor is there any extrusion of serum The coagulation time in purpura is usually not prolonged, thereby helping to distinguish this disease from hemophilia, but the bleeding time[1] determined by estimating the length of time a needle prick will bleed, after blotting up the clot at the bleeding site every thirty seconds, may be prolonged from normal (which is from one to three minutes) to as long as several hours

From this brief outline, it may be seen that, although the study of purpura hemorrhagica, especially as regards etiology and treatment, is still in its infancy the excellent work of various observers in the last few years has shown the way to a better understanding of the whole subject, and has awakened a hope that the solution of many of the problems associated with this disease may not be far distant

CONCLUSIONS

1 The best methods of treatment of purpura hemorrhagica, in addition to the usual measures are (*a*) subcutaneous or intravenous injection of human blood serum, (*b*) transfusion, and (*c*) intramuscular injection of whole fresh human blood

2 The intramuscular injection of whole blood is a simple, harmless, effective procedure, and should be employed before other radical measures in all cases of severe purpura hemorrhagica, it may also have a wide field of usefulness in hemophilia and other blood diseases, in bleeding from various parts or organs of the body, in wasting diseases, and in many infections

251 West Ninety-Second Street

---

17 Wright J H, and Kinnicutt, Roger A New Method of Counting the Blood Platelets for Clinical Purposes The Journal A M A, May 20, 1911, p 145 The ordinary Thoma Zeiss hemacytometer is employed, using the red cell pipet, and diluting the blood 1 100 The diluting fluid consists of two parts brilliant cresyl blue and three parts aqueous solution of potassium cyanid (1 1,400) The nuclei of the white blood cells stain dark blue the protoplasm light blue, the red cells are decolorized and appear as "shadows", the platelets appear as small lilac colored, oval or elongated bodies

18 Ledingham J O G Experimental Production of Purpura in Animals by the Introduction of Anti Blood Plate Sera, Lancet, London, 1914, i 1673

19 Hayem, G Du Caillot non retactile suppression de la formation du serum sanguin dans quelque etats pathologique Compt rend Acad d sc, 1896, cxxiii, 894

PROTEOLYTIC FERMENTS OF THE BLOOD SERUM IN TABES DORSALIS AND GENERAL PARESIS*

FREDERICK HOWARD FALLS, SB, MD
CHICAGO

Of late a large amount of work has been done with the Abderhalden test, different tissues being used as substrate in an endeavor to obtain specific reactions which might be of value in diagnosing various obscure conditions The field of nervous diseases especially has attracted considerable attention In this respect, for example, dementia praecox and some other nervous disorders have been said to give specific reactions, such tissues as ovary, testicle, brain and other organs being used as substrate

Abderhalden reports some results which seem to confirm these statements, and his explanation is that in the various diseases which he enumerates a disturbance of the function of certain glands of internal secretion occurs which causes them to produce their secretion in a manner abnormal either in quality or quantity In these conditions he believes there are mobilized, in the blood of the affected individual, ferments which have a specific action on the substance of the gland whose secretion is disturbed

This theory has been eagerly embraced by many men, and from the glowing accounts which emanated from the various clinics during the early part of last year, the men not engaged in this work were led to believe that at last many if not all of the dark spots in the field of nervous diseases were to be illuminated

As might have been expected by any one familiar with the principles of biologic reactions and serologic tests, these predictions have failed of realization

It has been demonstrated by myself[1] and others that similar positive reactions can be obtained by using placental tissue prepared according to Abderhalden's directions for use in the test of pregnancy

This speaks strongly against the specificity of the ferments that are present in these bloods If they are mobilized against proteins from certain organs, then they should be specific and digest only those organs This was the first blow delivered against the theory in this country Not only is it true for the test in certain nervous diseases, but also it has been shown that blood in nearly all pathologic conditions will give a positive Abderhalden test when placenta is used as a substrate

---

* From the Departments of Experimental Medicine and of Obstetrics, University of Illinois College of Medicine

[1] Falls F H A Study of the Ferment Activity of the Blood Serum, The Journal A M A Oct 3 1914 p 1172

Recently another blow has been dealt at the theory in Europe by De Waele[2] and Plaut,[3] and in this country by the excellent work of Jobling, Eggstein and Petersen,[4] and by Bronfenbrenner [5]

These investigators have demonstrated that the various tissues used as substrate in the Abderhalden test are not digested by the ferments in the blood serum On the contrary, they are even more resistant to tryptic digestion than the same tissue not exposed to the action of the serum The explanation of this phenomenon is that the tissue used as a substrate plays a purely passive role in the experiment and acts by adsorbing certain antitryptic substances in the serum which are of lipoidal nature, thus allowing the trypsin to digest the serum proteins present in the blood According to De Waele, the trypsin of the blood has a specific affinity for the globulin fraction of the serum protein

From these facts it is obvious that we are forced to change our views regarding the ferment activity of the blood in these conditions One point, however, is apparently settled, and that is that in many of these conditions there is an increase in the ferment content of the blood This fact is admitted both by the men who have worked with the antitrypsin method of determination, and by those who have worked with the Abderhalden dialysis method

TABLE 1—TABES DORSALIS

No	Duration of Disease	Last Meal Hrs	Incubation Period Hrs	Ninhydrin Reaction	Control Reaction	Remarks	Age Yrs
1	2 yrs	5	20	++++	0	Stood at room temp 28 hours	26
2	2 mos	5	20	++++	0	Stood at room temp 28 hours	34
3	4 mos	5	20	+++++	0	Stood at room temp 28 hours	35
4	1 yr	4	24	+	0		52
5		4	24	++	0		55
6	3 yrs	4	24	0	0	Slight hemolysis	46
7	3 to 4 yrs	6	23	Very faint	0	Gastric crisis	40
8	4 mos	4	23	++	0		25
9	1 yr	4	23	+	0		38

Whether or not this phenomenon is of practical value as a diagnostic measure, its theoretical importance is obvious These fundamental facts have a significance which, even though the present state of our knowledge regarding them is incomplete and difficult to interpret, nevertheless can hardly be disregarded It is from a further study along this line that we may hope to gain a clearer conception of the underlying pathologic processes concerned in the production of these diseases

EXPERIMENTAL

I wish to report a series of cases of tabes dorsalis and general paresis which I have recently studied by the Abderhalden method These cases were first observed when I was trying to determine what pathologic conditions would give a positive Abderhalden test and therefore would have to be ruled out when applying the test in a case of suspected pregnancy

I was greatly surprised to find that the blood serum contained tryptic ferments in excess of the normal in practically all of these cases In these tests I followed the technic used by the Abderhalden school as closely as possible, so that results obtained might be comparable Human placental tissue was used as substrate in all tests For details regarding the technic and preparation of the various constituents entering into the test, reference is made to my article of last year [1]

TABLE 2—GENERAL PARESIS

No	Duration of Disease	Last Meal Hours	Incubation Period Hours	Ninhydrin Reaction	Control Reaction	Remarks	Age
1	Information not reliable	3½	22	+	0	Doing well under salvarsan	33
2	Information not reliable	3	22	++++	0		35
3	Information not reliable	3	22	+++	0		42
4	Information not reliable	6	24	+++	0	*Cerebrospinal* syphilis	44
5	Information not reliable	3	22	++++	0	Congenital tabes Optic atrophy	15
6	Information not reliable	4	22	++++	+	Taboparesis	34

Most of these patients were adults and all were males The patients were from the nervous services at the Cook County Hospital, Chicago, to the attending men of which I take this opportunity of expressing my thanks for free access to the clinical material None of the patients were suffering from any preexisting or concomitant disease as far as could be determined

Tabes dorsalis was first investigated The cases were all in adult males, all were under treatment A few had received salvarsan, others were under mercury and the iodids The reaction was positive in all but one case The reason for its absence in the one case I cannot explain from the facts adduced The strength of the reactions in the first three cases in Table 1 cannot be fairly compared with the others because the tubes were incubated twenty hours, and then allowed to stand at room temperature twenty-four hours, before dialyzation was interrupted As would be expected, the reactions were stronger than in the other cases

TABLE 3—MENINGITIS

No	Duration of Disease Weeks	Last Meal Hours	Incubation Period Hours	Ninhydrin Reaction	Control	Remarks	Age	Remarks
1	?	Several	22	Negative	0	Semicomatose	37	Tuberculous?
2	?	3½	22	Faint trace	0	Pneumococcal or epidemic	50	Chronic nephritis
3	?	Several	24	Negative	0	Epidemic	25	Delirious
4	2½	4	21	Faint trace	0	Tuberculous	20	
5		3½	22	Negative	0	Wassermann+	30	Possibly syphilitic

Neither the age of the patient nor the duration of the disease appeared to have any effect on the reaction obtained In general the reactions may be said to be relatively weak in this disease

The reactions were stronger in the cases of general paresis, as is shown in Table 2 This is as we would expect from a knowledge of the clinical course of the disease It is as a rule relatively rapidly progressive, and the processes are more destructive than in tabes Hence by analogy with the results obtained in other acute infectious diseases, one would expect to obtain relatively strong reactions[6]

---

[2] De Waele H Ztschr f Immunitatsforsch 1915 xxii 171
[3] Plaut I Munchen. med Wchnschr 1914 lxi No 5
[4] Jobling J W Eggstein A A and Petersen William Serum Proteases and the Mechanism of the Abderhalden Reaction Studies on Ferment Action XX Jour Exper Med 1915 xxi 239
[5] Bronfenbrenner J Jour Exper Med 1915 xxi 227

I have incorporated in this paper a series of cases of meningitis which may be regarded as control experiments, inasmuch as they all gave negative or very faint reactions This is a peculiar fact and to my mind can be explained only on the assumption that the greater part of the reaction to the infection occurs outside of the blood stream in these infections and that therefore there is relatively slight variation in the ferment content of the blood under these conditions

I have also incorporated for comparison a series of pregnancy cases in Table 4 These control tests were made under the same conditions as the tests in the cases of tabes and general paresis It will be seen that certain of the latter reacted fully as strongly as some of the cases of pregnancy

The results seem to indicate that the ferment activity f the blood is increased in both tabes dorsalis and eneral paresis The reactions were relatively weaker in the cases of tabes than in the cases of general paresis This corresponds with our knowledge of the diseases, tabes being a relatively benign form of the infection, and usually of long duration and relatively slow tissue changes

TABLE 4—PREGNANCY CASES

No	Length of Gestation Months	Last Meal, Hours	Incubation Period, Hours	Ninhydrin Reaction	Control	Remarks
1	5	5	22	+++	I S+P* 0	Clinical examination confirmed diagnosis
2	9¼	4	16	+++	S† 0	
3	9¾	5	16	+++	I S+P 0	
4	10	4	16	+++	S 0	
5	9¼	4	16	+++	S 0	
6	9¾	5	18	++	S 0	
7	8¾	4	16	++	S 0	Placenta praevia
8	9	4	16	++	S 0	
9	5	5	22	+++++	I S+P 0	Threatened abortion
10	4	5	21	++++	I S—P 0	Threatened abortion

* I S+P = Inactivated serum + placenta used as control
† S = Serum alone used as control

General paresis, on the other hand, is a malignant form of the infection The progress is rapid, and tissue changes are intense This coincides with my findings as regards the tryptic power of the blood serum in the acute infectious diseases

The demonstration of the presence of an increased amount of ferment in the serum is one thing The interpretation of this fact and its clinical and pathologic significance is quite another matter Will the presence or absence of the reaction be of value from the standpoint of diagnosis or prognosis? Will it be of value in regulating the time and amount of treatment? Will attempts artificially to vary the ferment content of the blood have any effect on the course of the disease?

These are all questions that demand investigation I am well aware that the present series is too short from which to draw hard and fast conclusions It is intended more to point out the fundamental facts, and also to correct certain misconceptions that have arisen from the early work along these lines

It seems to me that the present method is rather cumbersome and demands too much time on the part of the investigator Although I have had no personal experience with the antitrypsin method, from a study of the work of others it would seem that more rapid and equally reliable results could be obtained by this method From the amount of work that is being done, this point should soon be settled

CONCLUSIONS

1 The ferment activity of the blood serum is increased above the normal in tabes dorsalis and general paresis

2 This increase is greater in general paresis than in tabes dorsalis

2800 Washington Boulevard

THE NATURE OF PHARMACEUTIC NAPHTHENE OIL (LIQUID PETROLATUM)

BENJAMIN T BROOKS, Ph D
PITTSBURGH

The recent increase in the use of liquid petrolatum as a laxative, particularly in cases of intestinal stasis, taken together with the fact that water-white oils, intended for internal use, are now being largely manufactured in this country, seems to warrant the publication of the following notes on the chemical character, properties, mode of manufacture and testing of oils of this class

The claim has been frequently and persistently made that the Russian oils, presumably those derived from the Baku district, consist of naphthene hydrocarbons (sometimes erroneously confused with hydrocarbons of the benzene series), whereas American oils consist chiefly of hydrocarbons of the methane or paraffin series and that, therefore, liquid petrolatums made from "American oils" have not the same properties and should not be substituted for the Russian liquid petrolatum Although the crude petroleums obtained from the world's various producing districts vary greatly in composition, America has great quantities of petroleum of the same general character as the Baku oil The claim that the Russian or Baku petroleum consists essentially of naphthene hydrocarbons is equally true of certain American oils In general, as the fractional distillation of the crude petroleum proceeds, the distillates become poorer in hydrogen, the predominating constituents of the successive fractions being represented by the empiric formulas C_nH_{2n+2}, C_nH_{2n}, C_nH_{2n-2}, C_nH_{2n-4}, etc The hydrocarbons contained in petroleum distillates may be grouped together as follows

1 *Paraffin Hydrocarbons,* C_nH_{2n+2}—These hydrocarbons predominate in the gasoline and kerosene fractions obtained from most crudes The simpler compounds are liquid, but the hydrocarbons of this series which boil above about 300 C are solid at ordinary temperatures and constitute the ordinary paraffin of commerce example, tetracosan, $C_{24}H_{50}$, melting point from 50 to 51 C, isolated by Mabery from paraffin from Pennsylvania oil

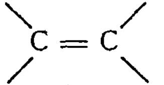
---

[6] It has occurred to me that the administration of iodids to these patients might theoretically be considered as the cause of the positive reaction, since it has been shown that iodin, by uniting with the unsaturated bonds of the antitryptic lipoids, increases the tryptic activity of the serum

2 *Naphthene Hydrocarbons,* C_nH_{2n}—These hydrocarbons rarely predominate in the gasoline and kerosene fractions except in the case with certain crudes Thus, the gasoline fraction from Baku oil contains from 80 to 90 per cent of naphthenes The lighter kerosene fraction of the Ohio Trenton limestone oil contains about 65 per cent of naphthene ($C_{12}H_{24}$ to $C_{17}H_{34}$) The fraction of the Santa Barbara (Calif) crude oil, which boils below 170 C, consists almost exclusively of naphthenes, and Coates[1] has shown that the lighter fractions of the Jennings (La) petroleum consist almost entirely of naphthenes Chemically, naphthenes are, as a rule, as inert as the paraffin hydrocarbons

3 *Polynaphthenes,* C_nH_{2n-2} and C_nH_{2n-4} — The higher boiling, viscous oils, such as are employed for lubricating, and the so-called liquid petrolatum oils belong to this class Such lubricating oils may or may not contain a small quantity, usually not more than 2 per cent, of paraffin, which crystallizes out when the oil is chilled

4 *Benzene Hydrocarbons*—These hydrocarbons, of which benzene and toluene are well known examples, occur in very small amounts in all crude petroleums which have been thoroughly examined In the rigorous refining to which all oils of the liquid petrolatum class are subjected, the benzene homologues are completely removed

5 *Olefin Hydrocarbons*—These substances also are represented by the empiric formula C_nH_{2n}, but, in contrast with the naphthenes, are unsaturated, containing the olefin group  $>C=C<$ They are very reactive chemically, are usually very irritating to the mucous membranes, and the gastric irritation, which may be very severe, which follows the swallowing of unrefined oils, has been attributed to their presence Turpentine or pinene is an example of such an unsaturated hydrocarbon When oils are refined by concentrated or fuming sulphuric acid, as is customarily the fundamental operation in the manufacture of oils for pharmaceutic use, these unsaturated hydrocarbons are completely removed

6 *Fluorescent and Coloring Matter*—As a rule, the fluorescence of mineral oils is completely removed incidental to the process of refining it to such a degree as to remove the petroleum taste The substances causing fluorescence are present only in traces, and are readily sulphonated by concentrated or fuming sulphuric acid, and may be removed[2] in this way A trace of tarry matter in solution suffices to give the oil a yellow tinge and usually, though not always, a bad taste Some preparations of the nature of petrolatum may be quite yellow and yet be practically tasteless Final removal of color may be accomplished by filtration through fullers' earth or by distillation with superheated steam In pharmaceutic oils a slight color should not be objected to, provided the oil is sufficiently good with respect to taste

There is great need that some proper and uniform nomenclature be adopted to designate the viscous, water-white, tasteless mineral oils usually designated as white paraffin oil, liquid petrolatum and by a score or more of trade names As has been pointed out by Marcusson,[3] *most oils of this class contain no paraffin hydrocarbons whatever,* being made up of hydrocarbons of the naphthene, C_nH_{2n}, and polynaphthene, C_nH_{2n-2} and C_nH_{2n-4} class Such an oil made by Marcusson by the action of concentrated and fuming sulphuric acids on a light lubricating oil yielded a finished product having the specific gravity 20°/4° of 0 8827 and which showed the following analysis

	Found	Calculated for C_nH_{2n}
C	86.74	86 33
H	13 43	13 67

I have made such pharmaceutic oils from the lubricating oil distillates of several American crudes, and while some of them contain a small amount of paraffin which crystallizes out on chilling, it should be mentioned that many American oils, such as most of the oils of the Gulf region, contain no paraffin whatever Even when prepared from typical Pennsylvania oils, the customary refinery method of removing the paraffin wax, namely, chilling, suffices to free the oil of paraffin wax to such an extent that a pharmaceutic oil prepared from such low cold test Pennsylvania oils would be practically free from paraffin Such an oil would therefore be a true naphthene and polynaphthene oil I suggest, therefore, that in order to avoid confusion and to designate properly oils of this class, they be called "white naphthene oils" The claim that *only* Russian oils belong in this class has no basis of fact and has been advanced presumably for business reasons

The facts cited above may serve to explain the results reported by Dr W A Bastedo, of the Council on Pharmacy and Chemistry of the American Medical Association [4]

> The results of this clinical investigation appear to warrant the conclusion that so far as therapeutic results are concerned the differences in the action of the three varieties of liquid petrolatum, namely, light Russian liquid petrolatum, heavy Russian liquid petrolatum and American liquid petrolatum, are too slight to be of importance Hence, the choice between the lighter and the heavier oils, and between the Russian and the American is an open one, to be determined not by therapeutic differences, but by palatability, depending on the degree to which the refinement of the oil is carried out

To this it may be added that the promiscuous sale for internal use of the lighter oils, lighter than the specific gravity 0 885, is to be condemned owing to the fact that trouble due to leakage, as reported by Dr Bastedo, is much more common with the lighter oils Leakage will rarely result if the original recommendations of Sir Arbuthnot Lane be followed, and only the more viscous oils of 0 885 specific gravity, or heavier, be employed for internal use

In regard to testing oils of this class, the most important tests are undoubtedly taste, keeping quality and viscosity, but since the specific gravity is roughly a measure of the viscosity and since the former determination is much more easily and quickly carried out, it may be substituted for the viscosity measurement In regard to taste I am able to confirm the experience of others that masticating the oil with ordinary white bread brings out the petroleum taste, making this test for taste more delicate and enabling one to distinguish between oils which are nearly identical in this respect

One of the most important tests that can be made is for keeping quality Many oils are perfectly colorless and tasteless when freshly prepared, but after standing, particularly if exposed to the light, acquire an objectionable taste and a light yellow color Exposure to daylight in loosely stoppered bottles will develop very marked differences within from four to ten days in the case of oils which originally are excellent and apparently identical in quality

---

[1] Coates Jour Am Chem Soc 1906 p 384
[2] Brooks and Bacon Jour Indust and Engin Chem 1913
[3] Marcusson Chem Ztg 1913 p 550
[4] Bastedo W A Clinical Experience with Liquid Paraffin (Liquid Petrolatum) The Journal A. M A March 6 1915 p 808

Various chemical tests have been proposed, such as treatment with sulphuric-nitric acid mixture In my opinion, none of these tests is of any significance whatever Thus, in regard to the sulphuric-nitric acid test, it may be mentioned that, as Gurwitsch[5] states, "in general it may be said that the reaction with nitric acid proceeds somewhat more readily with the naphthenes than with the paraffins " If the purpose of the test is really nitration, then it should be carried out differently, since, as Namjetkin has shown, dilute nitric acid alone, specific gravity about 1 30, is best for nitrating paraffins and naphthenes The usefulness of such a test is not apparent, and I believe that the simple tests suggested above are easily sufficient to enable one to pass judgment on the relative merits of oils of this class The freezing test for detecting the presence of paraffin has also been proposed, but if paraffin does not separate from the oil at room temperature, it certainly could not do so in the body The presence of a small amount of paraffin indicates that the oil has probably been prepared from one of the so-called paraffin base" crudes, not added as an adulterant

Mellon Institute of Industrial Research

CANDY MEDICATION *

BERNARD FANTUS, M D

Professor of Pharmacology and Therapeutics, University of Illinois, College of Medicine
CHICAGO

The idea of presenting medicine in candy form is as old as are confections and lozenges Candy medication is also in extensive use, most especially in the form of a great variety of phenolphthalein preparations from phenolax and purgen to zam zam and ex-lax Two facts, however, that are not sufficiently known are first, that a large number of other medicaments may be administered in the same form, and, secondly, that candy medicaments can be prepared extemporaneously by any good pharmacist

It is now quite a number of years since, delighted with the results obtained from the administration of the candy medicaments that could then be found on the market — and they were few indeed — I commenced a systematic search for medicaments that could be given in candy form[1] I soon learned that, to be a real advance in therapeutics, candy medication must meet the following requirements

1 It must be a perfectly delicious sweet, attractive in form, color and odor, and free from the suspicion of disagreeable or medicinal taste or odor

2 It must disintegrate rapidly in the mouth, for a sick child will usually not suck candy as a healthy youngster would

3 It must be possible for the average pharmacist to prepare the medicament extemporaneously, so that the physician may be able to fit the dose and combination of the medicine to suit the case, that the patient may receive a fresh and perfect preparation at all times, and that the pharmacist may not be forced to carry in stock a large assortment of these more or less perishable goods

In view of these exacting requirements, it may be rather surprising that over fifty different medicaments are at present available for administration in candy form This has been accomplished by taking advantage of the fact that some medicines are practically tasteless, that modern synthetic chemistry has enriched our resources in this direction by the production of a considerable number of tasteless or almost tasteless and yet active substances, and that many of the isolated active principles are easily disguised

In some cases a chemical trick is successful, for example, using a little alkali or a little acid to render the substance less soluble in the mouth Quite a number of almost insoluble substances of slight but lingering taste can be made perfectly pleasant by impregnating them with saccharin by trituration with a 3 per cent alcoholic solution of saccharin, and permitting the alcohol subsequently to eva[illegible]

I have experimented [illegible] a candy form that would lend itse[illegible] [illegible]poraneous preparation, and yet yield toler[illegible]ly stable products I have found it in sugar tablets, for which I have proposed the name "sweet tablets" (Latin, tabellae dulces)[2]

To prepare these, the pharmacist needs no greater equipment than a ten-dollar tablet machine Were a universal formula for a base for sweet tablets desired, it might be found in the following formula

VANILLA CACAO SUGAR

Tincture of vanilla	5 00 c c
Cacao powder	10 00 gm
Dextrose	10 00 gm
Sugar, powdered	80 00 gm

Mix thoroughly by trituration in a mortar, and preserve in a well-stoppered bottle

Mixing this sugar preparation with the proper amount of medicament in such proportion that it is contained in 0 30 gm yields a powder that is ready for compression in the tablet machine

For substances that have a slight flavor of their own, such as thyroid, sulphur or podophyllum, cinnamon cacao sugar is better The latter may be prepared by substituting 0 5 c c of 10 per cent spirit of cinnamon for the tincture of vanilla

Inasmuch as variety in flavor and appearance is quite desirable in this form of medication, I have experimented to find a substitute for cacao that would lend itself as well to extemporaneous tablet making as that substance, when added to sugar I have found it in what I propose to call "fat starch," for which the following formula might be given

FAT STARCH

Alcoholic solution of saccharin, 3 per cent	15 00 c c.
Liquid petrolatum	25 00 c c
Starch	75 00 gm

Mix the starch with the solution of saccharin, and permit the alcohol to evaporate completely Then incorporate the liquid petrolatum

---

[5] Gurwitsch Wissenschaftliche Grundlagen der Erdölbearbeitung, Berlin, 1913

* From the Department of Pharmacology, University of Illinois, College of Medicine

[1] Fantus, Bernard Candy Medication, The Journal A M A, Sept 14, 1912 p 842

[2] Fantus, Bernard Tabellae Dulces, Jour Am Pharm Assn, May, 1914

This fat starch added to sugar to the extent of 20 per cent yields a powder that is ready for compression in the tablet machine By appropriate coloring and flavoring, quite a variety of sweet tablets can be elaborated

To give these formulas in detail would lead beyond the limits of this article They have been published elsewhere[3]

For the purposes of the physician, the naming of the medicaments available in this form and some discussion of their use will probably suffice The dose given is generally as much as can well be administered in this form, and, wherever possible, that suitable for a child of 3 years of age, in no case, however, exceeding it Smaller dosage could easily be given, larger dosage only in case of a few Combinations have purposely been avoided, but could easily be effected in many instances

THERAPEUTIC USES OF SWEET TABLETS

It may be of interest to see how many indications may be met, confining oneself entirely to the list of candy medicaments

1 For effect on the *alimentary tract* we have the choice of the following *antiemetics* sweet tablets of cocain, 0 001 gm (1/60 grain), anesthesin, 0 015 gm (1/4 grain), morphin, 0 0006 gm (1/100 grain), bismuth subnitrate or subcarbonate, 0 20 gm (3 grains), and cerium oxalate, 0 12 gm (2 grains)

Among these the most important, no doubt, are the bismuth salts, though anesthesin possesses a most interesting and possibly useful benumbing effect in the throat as well as in the stomach

Emetics —If enough of the sweet tablets containing the nauseant expectorants, apomorphin, tartar emetic or emetin be given, vomiting could be induced However, the syrup of ipecac answers all the requirements of an emetic for children, and sweet tablets would scarcely be used for this purpose

Antacids —The doses of the antacids that can be administered in form of sweet tablets are possibly too small to be of much use For instance, not more than 0 06 gm (1 grain) of sodium bicarbonate can be made palatable in this form But soda mint tablets used by adults contain only 0 30 gm (5 grains) The sweet tablets of magnesia contain only 0 06 gm (1 grain), yet they represent one-third teaspoonful of milk of magnesia Sweet tablets of chalk contain only 0 12 gm (2 grains) of chalk, this, however, represents one-half teaspoonful of the official chalk mixture, and in a much more permanent form

Charcoal may be of no use as an adsorbent in pediatrics I should like to point out, however, that if charcoal is of any use in practice, that contained in the tablets prepared after my formula is in dry and finely powdered form, and is therefore much more likely to act as adsorbent than the granulated charcoal generally used in tablet making The ordinary charcoal tablet contains 0 30 gm (5 grains) of charcoal Sweet tablets may be made, containing 0 18 gm (3 grains) of this substance

We have a fair number of candy *cathartics* to select from, though the first three named below are probably the most successful sweet tablets of calomel, 0 006 gm (1/10 grain), mercury with chalk, 0 03 gm (1/2 grain), phenolphthalein, 0 06 gm (1 grain), elaterin, 0 0006 gm (1/100 grain), resin of podophyllum, 0 001 gm (1/60 grain), resin of jalap, 0 03 gm (1/2 grain), senna, 0 06 gm (1 grain), and sulphur, 0 06 gm (1 grain)

I have not had much occasion to use the others The dose of the last two is probably too small to be of much use, and yet sulphur tablets used by adults contain only 0 30 gm (5 grains)

Intestinal antiseptic action can be obtained from the above-named mercurials and from the salicylates to be discussed below

It may be of interest to know that 0 06 gm (1 grain) of lactic acid bacilli may be put up in the form of sweet tablets

Among the *anthelmintics* santonin 0 03 gm (1/2 grain) may readily be given in this form

2 Among the medicines used to affect the *respiratory tract*, cough remedies are, of course, the most important Of these, we have a fair assortment in candy medication

We have the following *expectorants* sweet tablets of tartar emetic, 0 0006 gm (1/100 grain), apomorphin, 0 0006 gm (1/100 grain), emetin, 0 0012 gm (1/50 grain), sajodin, 0 06 gm (1 grain), and terpin hydrate, 0 03 gm (1/2 grain)

Of these, the first three are useful to loosen up a dry cough during the acute stage of bronchitis Sajodin, an iodin preparation, has the expectorant value of potassium iodid, it is useful, therefore, in subacute dry bronchitis Terpin hydrate, on the other hand, is more likely to be useful when expectoration has become freely established

The use of opiate is, of course, not advisable in the treatment of cough in children Should it, however, be required, sweet tablets of heroin up to 0 0006 gm (1/100 grain) or of morphin up to 0 0006 gm (1/100 grain) would be available If a less decided *sedative* be desired for an excessive cough sweet tablets of sabromin 0 06 gm (1 grain), a bromin preparation, may be tried For antispasmodic action, atropin 0 0003 gm (1/200 grain) is available

3 For effect on the *circulatory system*

Of *stimulants* for the circulatory system we have the following assortment in the form of sweet tablets digitalis, 0 008 gm (1/8 grain), strophanthin 0 00003 gm (1/2,000 grain), atropin, 0 0003 gm (1/200 grain), strychnin, 0 0003 gm (1/200 grain), and caffein 0 006 gm (1/10 grain)

The digitalis is in form of the powdered leaf, which probably, after all, if biologically tested, is the most reliable form of digitalis The strychnin used is an adsorption compound of strychnin with fullers' earth[4] which, though less active than strychnin, is still capable of developing strychnin action

Should a *depressant* to the circulation be desired, it would be available in form of aconitin, 0 00003 gm (1/2,000 grain) For *vasodilator action*, we have sweet tablets of nitroglycerin, 0 0003 gm (1/200 grain)

4 For effect on the *urinary system* For *diuretic* action, diuretin is available in doses of 0 015 gm (1/4 grain), though even this dose is rather hard to disguise It is perhaps the least satisfactory of the sweet tablets Caffein could be given in dose of 0 006 gm (1/10 grain) It is probably not needed, however, as we could administer coffee even more readily

---

[3] Fantus Bernard Candy Medication St Louis C V Mosby Company 1915

[4] Fantus Bernard Fullers Earth Its Adsorptive Power and Its Antidotal Value for Alkaloids The Journal A M A May 29 1915 p 1838

Three patients died within the first twelve hours Each had general peritonitis with quantities of foul smelling purulent fluid and intestinal contents throughout the peritoneal cavity Little may be expected in cases at this stage This merely argues for early interference Two other patients died, one eleven days later from the typhoid fever, after making an excellent operative recovery Another died on the eighth day, after making a similar recovery, at which time we did not recognize the value of using silver wire as a suture in such cases, and on the seventh day the wound parted, allowing the intestines to extrude under a full dressing[1] The *stain on the dressing* was *not* interpreted, and when seen, eight hours afterward, the patient was in a state of shock that could not be overcome by the replacement and resuturing, and he died on the eighth day Four patients were discharged well after recovering from operation and the typhoid fever

TABLE 2—FINDINGS IN CASE 5

Onset Symptoms	Operative Findings	Result
Pain and tenderness in right iliac fossa slight increase of temperature	Normal appendix enlarged swollen mesenteric lymph glands in lower ileum	Cure no disturbance due to operation

Statistics are deceiving Suffice it that with the danger signs of peritoneal inflammation appearing, the possibilities must be carefully weighed, for without extreme care in the diagnosis we may be consigning to his death a patient who has chances of 1 2 or 1 3 of getting well should he be subjected to the surgical intervention indicated by the lesion

TABLE 3—FINDINGS IN FIVE CASES OF ACUTE TYPHOID ABDOMEN SHOWING ILEAL PERFORATION

Case	Age	Onset Symptoms	Operative Findings	Results	Date of Operation
6 H B	21	Hippocratic facies abdominal distention not well localized	Large amount of foul dirty *free fluid ileal* perforation	Patient died *3 hours* later	Sept 7, 1910
7 J H	17	Sudden, severe pain in right iliac fossa followed by rise in temperature and pulse and marked increase in tenderness in both iliac fossae	Much free turbid yellowish fluid ileal perforation	Cure	Feb 5, 1911
8 P Y	36	Pain in lower abdomen exquisite tenderness in right iliac fossa, distention	Ileal perforation	Cure	May 10, 1911
9 W H	25	Rapid distention Exquisite tenderness in right iliac fossa	Ileal perforation spreading peritonitis	*	Sept 16, 1911
10 O I	40	Face ashy gray, cold sweat thready pulse, distention marked tenderness in right iliac fossa	Ulcerated ileum general peritonitis ileal perforation	Death in three hours	Oct 5, 1910

* Patient did excellently for seven days when the wound broke and the intestines protruded under a heavy dressing This was not recognized for eight hours, and operative measures at this time could not overcome the shock, and the patient died in twelve hours

Finally, the more carefully one studies this condition and the greater the endeavors to forestall death from surgical complications, the more the possibility of opening a typhoid abdomen showing no actual existent surgical complications Yet, without belittling the effects of such operative procedures, I believe that it can be fairly said that this danger may be almost completely discounted when one realizes the desperate condition into which the patient may rapidly sink should the suspected lesion be present In two thirds of our cases, actual perforation was found In the remaining third, a lesion was found which might or might not have gone on to perforation In no case in which operation was performed was there absence of surgical complication,[2] so that, with extreme care on the part of the physician, the possibility of unnecessary operating will be a negligible factor, far less to be feared than permitting the patient to pass a certain point beyond which there is no hope for cure

THE ETIOLOGY OF THE CURRENT EPIDEMIC OF RESPIRATORY INFECTIONS IN CHICAGO

A PRELIMINARY NOTE *

GEORGE MATHERS, M D
CHICAGO

The current epidemic of respiratory infections has become so widespread that a large percentage of the population of various cities in the United States has been temporarily incapacitated, and business has been seriously crippled These outbreaks of so-called grip or influenza consist of acute infections of the respiratory tract, especially the nasopharynx, larynx and larger bronchi, with occasional involvement of the accessory sinuses and the lungs The importance of such epidemics from the standpoint of public health cannot be overestimated, and it is surprising that so little that is definite is known concerning the etiologic factors involved

Various organisms, such as *Bacillus influenzae, Micrococcus catarrhalis* and the pneumococcus, have been described in connection with such infections, but the evidence in each instance is inconclusive and the etiology remains more or less problematic Before specific measures either of a prophylactic or of a curative nature can be developed, the causative agents must be determined The etiologic problems presented by these acute infections demand complete bacteriologic study of the mucous surfaces of the infected air passages, which unfortunately under normal conditions often harbor virulent bacteria Is the etiologic factor a new organism that has a special affinity for these tissues, or do these diseases represent new pathogenic characters that have been acquired by a normal bacterial inhabitant of the respiratory tract?

A careful bacteriologic examination has been made in a considerable number of cases of respiratory infection during the current epidemic in Chicago, and the results seem sufficiently interesting to merit a brief report

In this work cultures were made from the sputum, nasal discharge and the pharyngeal mucosa Human blood agar plates and slants were used, and in many instances anaerobic cultures were made The material to be cultured was carefully washed through several changes of sterile normal salt solution, and the surface of the culture mediums inoculated The cultures were allowed to incubate at 37 C for from twenty-four to forty-eight hours

---

[1] A recent abdominal case, in which epidemic cerebrospinal meningitis was contracted after operation, and the wound parted on the seventh day, with absolutely no evidence of healing, still further emphasizes that in operations in intercurrent abdominal complications during acute fevers, silver wire or, at least, some nonabsorbable suture, must be used, as we cannot depend on the healing properties of the wound itself when subjected to these conditions

[2] With the exception of Case 5, in which operation was performed for subacute appendicitis, which showed a normal appendix and enlarged mesenteric lymph glands due to typhoid fever, unrecognized at the time of operation

* From the Memorial Institute for Infectious Diseases

Examinations of this kind have been made in twenty-four cases of respiratory infection, and in seventeen instances a hemolytic streptococcus has been found to be the predominating organism This organism grows in small white semitranslucent colonies on blood agar plates, surrounded by a clear zone of hemolysis from 1 to 3 mm in diameter In stained smears these organisms are small gram-positive micrococci arranged in pairs and chains Chain formation is marked, however, in broth cultures The strains examined culturally present all the characteristics of the common *Streptococcus pyogenes* type Green-producing streptococci and pneumococci have uniformly been found also in these cultures Four of the pneumococcus strains have been studied biologically, and three of these were found to belong to the atypical group commonly present in the normal mouth The fourth strain exhibited all the characteristics of *Pneumococcus mucosus,* and the patient from whom it was isolated died with a complicating lobar pneumonia It is interesting to note that *B influenzae* and *Micrococcus catarrhalis* have not been found in any of these cultures

Since pneumococci and green-producing streptococci are inhabitants of the normal mouth, and hemolytic streptococci are uncommon in infections of this nature, except tonsillitis, these results are suggestive The striking frequency with which a hemolytic streptococcus has been isolated in the acute stages of this infection indicates that this organism may be of primary importance in the etiology of the current epidemic in Chicago

Before any definite conclusions can be drawn, however, many other possibilities must be excluded Tunnicliff has described a peculiar bacillus which she found in connection with rhinitis Many of the infections begin with a severe coryza, hence, before *B rhinitis* can be excluded, many cultures must be made in very early cases Furthermore, the associated pneumococci must be studied as to their biologic reactions, and the antibody content of the patient's serum must be investigated in relation to the hemolytic streptococci Observations along these lines, as well as cultural observations in a larger series of cases are being made, the results of which will appear in a later communication

These preliminary findings emphasize the importance of careful bacteriologic examination in such diseases Before the usual diagnosis of grip or influenza is justifiable, some attempt at bacteriologic study should be made, for it is a striking fact that the diagnosis of influenza is rarely corroborated by bacteriologic findings

These observations, however, give rise to new problems, the solution of which would be of great value in the explanation of these epidemics of acute respiratory infections The development of specific therapeutic measures, either of a prophylactic or of a curative nature, for such diseases obviously depends on a thorough understanding of the etiology of these diseases

637 South Wood Street.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK "NEW AND NONOFFICIAL REMEDIES"

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT, SO FAR AS KNOWN, IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL

W A PUCKNER, SECRETARY

CALCIUM PHENOLSULPHONATE (See N N R, 1915, p 245) —The following non-proprietary preparation has been accepted

Calcium Phenolsulphonate P W R —Manufactured by Powers Weightman Rosengarten Co, Philadelphia

FERROUS LACTATE (See N N R, 1915, p 164) —The following non-proprietary preparation has been accepted

Iron Lactate Merck —Manufactured by E Merck, Darmstadt, Germany (Merck and Co., New York)

SODIUM ACID PHOSPHATE (See N N R., 1915, p 346) —The following non-proprietary preparation has been accepted

Sodium Phosphate Monobasic Merck —Manufactured by E Merck Darmstadt Germany (Merck and Co New York)

PHLORIDZIN (See N N R, 1915, p 248) —The following non-proprietary preparation has been accepted

Phloridzin Merck —Manufactured by E Merck Darmstadt Germany (Merck and Co New York)

SULPHANILIC ACID (See N N R., 1915, p 350) —The following non-proprietary preparation has been accepted

Sulphanilic Acid Merck —Manufactured by E Merck Darmstadt, Germany (Merck and Co New York)

EXTRACT OF ERGOT, PURIFIED (See N N R., 1915, p 116) —The following non-proprietary preparation has been accepted

Ergotin Merck —Manufactured **by** E. Merck Darmstadt, Germany (Merck and Co New York)

ANTITHYROIDIN-Moebius (See N N R., 1915, p 39) —The following dosage form has been accepted

Antithyroidin Moebius Tablets ¾ gr —Each tablet contains antithyroidin Moebius ¼ grain Prepared by E Merck, Darmstadt Germany (Merck and Co New York)

EUQUININE (See N N R, 1915 p 258) —The following dosage forms have been accepted

Euquinine Tablets 2 grs —Each tablet contains euquinine 2 grains Prepared by Vereinigte Chininfabriken Zimmer & Co Frankfort a M Germany (Merck and Co New York)

Euquinine Tablets 5 grs —Each tablet contains euquinine 5 grains Prepared by Vereinigte Chininfabriken Zimmer & Co Frankfort, a M Germany (Merck and Co New York)

FERRATIN (See N N R., 1915, p 165) —The following dosage form has been accepted

Ferratin Tablets 7½ grs —Each tablet contains ferratin 7½ grains Prepared by C F Boehringer & Soehne Waldhof Mannheim Germany (Merck and Co New York)

STYPTICIN (See N N R., 1915, p 82) —The following dosage forms have been accepted

Stypticin Hypodermic Tablets ¾ gr —Each tablet contains stypticin ¾ grain Prepared by E Merck Darmstadt, Germany (Merck and Co New York)

Stypticin Sugar Coated Tablets ¾ gr —Each tablet contains stypticin ¾ grain Prepared by E. Merck Darmstadt, Germany (Merck and Co New York)

Stypticin Dental Tablets ¾ gr —Each tablet contains stypticin ¾ grain Prepared by E Merck Darmstadt Germany (Merck and Co New York)

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION

535 North Dearborn Street Chicago, Ill

Cable Address "Medic, Chicago"

Subscription price Five dollars per annum in advance

Contributors, subscribers and readers will find important information on the second advertising page following the reading matter

SATURDAY, JANUARY 1, 1916

THE RESUSCITATION OF THE HEART AFTER ARREST

It is well known that there are circumstances under which an arrest of the heart's action, and consequent death, may occur when this organ itself is not irremediably beyond the power of recovery The difficulty in the situation is that as soon as the circulation is stopped by a cardiac failure there is no entirely satisfactory practical way of bringing stimuli to bear on the arrested organ that will cause it to resume its function and restore the circulation Respiratory failure, with its attendant lack of oxygen and accumulation of carbon dioxid, is easily remedied by any of several methods of artificial respiration Attempts to start the heart in these emergencies have involved massage, electric stimulation and the use of drugs The latter procedure has encountered almost insuperable obstacles, owing to the difficulty of getting any drug into intimate contact with the whole heart so long as there is no circulation to carry it Even intravenous injection into a vein near the heart is unlikely to bring a dissolved substance into contact with more than the chambers of the right side in order to be effective it should be carried through the pulmonary circulation to the left side and into the aorta, from which it can permeate all parts of the cardiac musculature through the coronary vessels Reverse injection into the arteries near the heart has also been attempted to accomplish the same purpose, but with little practical success The attempt to resuscitate the heart by injection directly into its interior or its musculature is an uncertain and somewhat dangerous process, and gives no assurance that the substance introduced will reach that portion of the organ responsible for originating the beat

It has occurred to Gunn and Martin,[1] of the pharmacologic laboratory at the University of Oxford, to try another method of getting stimulating substances to an arrested heart, namely, by injection into the pericardial sac It appeared that by this procedure, combined with massage, a solution of a drug could be brought into contact with the exterior of the whole heart To what extent drugs thus brought into the pericardial cavity will actually permeate the visceral epicardium has remained to be experimentally ascertained One is reminded, in the method suggested, of the familiar experiments in the physiologic laboratory in which the frog's or turtle's heart is commonly "bathed" in a solution of drugs for pharmacologic study Obviously it might be expected that a higher concentration of any drug would be required in order to reach the myocardium from the exterior, rather than by intravascular channels of perfusion Gunn and Martin have found that atropin, pilocarpin and epinephrin, when injected into the pericardial sac of animals as proposed, can rapidly produce their characteristic effects on the heart up to a certain point The immediate action is a local one, and is not due to an absorption of the drugs into the general circulation

With the possibility of a helpful method thus demonstrated, it has remained to combine the method with massage of the heart, a procedure long ago proposed and often employed in the resuscitation of this organ[2] When massage of the arrested heart is performed with a view to reviving spontaneous contractions, the compression should be gradual and relaxation abrupt, according to Gunn and Martin It acts both as an artificial circulation and as a mechanical stimulus to the heart muscle Massage should be regularly interrupted at short intervals for a few seconds to allow the spontaneous beats to develop

According to the Oxford pharmacologists, massage of the heart can be performed in the following ways, stated in order of efficacy (1) by direct compression of the heart through an opening in the thoracic wall, (2) by compression of the heart above the diaphragm through an opening in the abdominal wall, (3) by simple compression of the abdomen, and (4) by simple compression of the thorax When one of these procedures is combined with the intrapericardial injection of epinephrin, the heart can be revived even in cases of severe chloroform poisoning in animals, and even after ten or more minutes have intervened since the last heart beat The significance of shortening this interval to the utmost is now realized as the result of the demonstration that the central nervous system of the higher animals and man cannot survive complete anemia very long without permanent injury to the brain cells

The sequence of events suggested by Gunn and Martin in the treatment of cardiac arrest is as follows artificial respiration, intrapericardial injection of epinephrin, and massage of the heart through an opening in the abdomen If, when the heart has been started, the blood pressure continues low and the heart beats consequently remain feeble, speedy and permanent improvement can be obtained by intravenous injection of either epinephrin or pituitary extract. There are no serious reasons apparent why a similar procedure should not be applied to the human subject in conditions like chloroform poisoning in which general recovery might be anticipated to result from resuscitation of the heart. One can scarcely speak of any risk involved when the human heart has stopped beyond the power of spontaneous recovery. The resuscitation procedure indicated as most rational by experiments on animals is likely to be the one offering the greatest prospect of success in averting permanent death under similar conditions in man.

---

[1] Gunn, J A, and Martin, P A Intrapericardial Medication and Massage in the Treatment of Arrest of the Heart, Jour Pharmacol and Exper Therap, 1915, vii, 31

[2] For the literature on resuscitation of the heart see, Pike, F H, Guthrie, C C, and Stewart, G N Jour Exper Med, 1908, x, 38

HUMAN MILK

To any one who seriously considers the unique role of milk in the dietary of man, particularly in the early period of growth, it must come as an unexpected surprise to find how scanty is our knowledge of certain important features of the subject. It is not enough to say that milk is an important food; it is well nigh indispensable at certain ages. A superiority for the nutritive requirements of the growing infant is almost universally conceded to human milk. For cow's milk, the most prominent substitute for human milk, hundreds of more or less superficial analyses are available, so that the general variations in fundamental components are fairly well understood in the case of the most familiar breeds of cattle. The paucity of reliable data regarding human milk becomes apparent as soon as one attempts a compilation of what has been published on the subject.

There are, it is true, numerous isolated analyses dealing either with one or a few components of the milk or with samples of the mammary secretion collected without special reference to the period of lactation or other physiologic considerations. With few exceptions, scarcely any representative number of statistics have been reported in relation to the composition of a twenty-four-hour sample of human milk. In addition to fats, proteins and sugar, both cow's and human milk contain organic substances which have little or no nitrogen, and which are soluble in ether or alcohol as well as water, but of which the chemical nature still remains unknown. The amount of these substances in human milk is said to be about 1 per cent. at the beginning of lactation and about 0.5 per cent. in the middle period of lactation. At this time cow's milk is reported to contain about 0.3 per cent. of such substances which are possibly of importance in nutrition.

These facts alone speak for the desirability of more intensive study in this field of physiologic chemistry. Many of the published analyses of breast milk are open to criticism because of the small samples used for examination. This objection applies in particular to the estimation of the inorganic constituents where the analytic methods call for representative portions. Pediatrists will therefore welcome the valuable series of painstaking analyses completed on a large number of twenty-four-hour samples of human milk by Holt and his collaborators[1] at the Babies' Hospital, New York.

Many of the facts elicited have been anticipated, but this elaborate investigation of more than thirty large samples gains in value by its representative character. They show that, in the colostrum period, woman's milk has high protein and high ash with rather low fat; in the transition period the protein and ash are lower while the fat is higher; in the mature period (after one month) the composition of normal milk does not vary in any essential or constant way quite up to the end of lactation. The only striking feature of late milk is a decline in quantity, though there is noted a slight fall in all the solid constituents except the sugar. Of the different constituents of milk, the least variation both in individuals and in periods is seen in the sugar. The proportion of this is somewhat higher than the generally accepted 7 per cent.; 7.5 per cent. is nearer the correct figure. The greatest individual variations are seen in the fat, though the period variations in fat are not marked. The protein is highest in the colostrum period, and falls to a little over half the proportion in mature milk, during which period it is seldom over 1.25 per cent.; of this about one third is casein and two thirds are lactalbumin. The high ash of the colostrum period is chiefly due to the amount of sodium and potassium.

Of the salts which make up the ash, the greatest individual, as well as the greatest period, variations are seen in the sodium; the least individual and period variations are seen in the calcium, the proportion of which is nearly constant throughout the period of lactation. The largest constituent of the ash of woman's milk is potassium; this with the calcium together make up more than half the total ash. Although in amount the total ash of cow's milk is about three and one-half times as great as that of woman's milk, the proportion of different salts which make up the ash is nearly the same, the only exceptions being that cow's milk has more phosphoric acid and less iron.

The content of iron is worthy of a little independent consideration. It is reported that, according to the most accredited analyses, human milk contains only 1.7 mg. of iron in a liter, while cow's milk has barely one third as much — really a negligible quantity. By these figures iron forms but 0.00007 per cent. of the ash of cow's milk, and 0.00015 per cent. of the ash of woman's milk. These facts give additional confirmation to what has occasionally been emphasized in The Journal in respect to the danger of a paucity of iron in the diet of adults whenever cow's milk and other foods notably deficient in this element furnish the preponderant part of the diet

---

[1] Holt, L. E.; Courtney, A. M., and Fales, H. L.: A Chemical Study of Woman's Milk, Especially Its Inorganic Constituents, Am. Jour. Dis. Child., October, 1915, p. 229.

DEATHS OF PHYSICIANS IN 1915

During 1915 the deaths of 2,451 physicians in the United States and Canada were noted in The Journal Reckoning on a conservative estimate of 156,000 physicians, this is equivalent to an annual death rate of 15 71 per thousand For the thirteen previous years the death rates were as follows 1914, 14 41, 1913, 14 64, 1912, 14 13, 1911, 15 32, 1910, 16 96, 1909, 16 26, 1908, 17 39, 1907, 16 01, 1906, 17 20, 1905, 16 36, 1904, 17 14, 1903, 13 73 and 1902, 14 74 The average annual mortality for the period from 1902 to 1915 inclusive was, therefore, 15 71 per thousand The chief death causes in the order named were the same as for last year, namely senility, heart disease, cerebral hemorrhage, pneumonia, accident and nephritis The age at death varied from 21 to 102, with an average of a little over 59 years The general average of age at death since 1904 is 59 years, 6 months and 11 days The number of years of practice varied from 1 to 79, the average being 32 years, 4 months and 26 days The average for the past twelve years is 32 years, 2 months and 13 days

Causes of Death—There were 227 deaths assigned to general diseases, 276 to diseases of the nervous system, 293 to diseases of the circulatory system, 173 to diseases of the respiratory system, 115 to diseases of the digestive system, 124 to diseases of the genito-urinary system, 400 to senility, 44 to suicide, 104 to accident, 21 to homicide, and 88 after surgical operation Among the principal assigned causes of death are senility, 400, heart disease and cerebral hemorrhage, each 218, pneumonia, 154, accident, 104, nephritis, 90, malignant disease, 65, tuberculosis, 62, suicide, 44, angina pectoris, 28, septicemia, diabetes, appendicitis and arteriosclerosis, each 22, homicide, 21, typhoid fever and gastritis, each 15, uremia, 14, meningitis and intestinal obstruction, each 12, myocarditis, 11, cholecystitis, 10, influenza and paresis, each 8, anemia and bronchitis, each 6, rheumatism, insanity, endocarditis, peritonitis and prostatitis, each 5, embolism, 4, typhus fever, dysentery, erysipelas, epilepsy, acute dilatation of the heart, gastric ulcer, hernia and cirrhosis of the liver, each 3, pellagra, leukemia, arthritis deformans, drug addiction, paralysis, paralytic dementia, mastoiditis, asthma, atrophy of the liver, ptomain poisoning and dropsy, each 2, and malaria, scarlet fever, diphtheria, tetanus, alcoholism, cerebrospinal fever, locomotor ataxia, neuritis, aneurysm, pleurisy and gangrene of the lung, each 1 Two physicians died in prison, and 9 lost their lives either in battle on land or by the sinking of ships on which they were medical officers

The causes assigned for the 104 deaths from accident were automobile, 23, falls and drowning, each 16 (of the latter, 5 physicians were drowned in attempting to save lives), poison, 11, automobile and railway, and railway, each 10, burns, 4, firearms and by animals, each 2, and asphyxiation, sunstroke, privation, lightning and explosion, one each The 44 physicians who ended their lives by suicide selected the following methods firearms, 17, poison, 15, cutting instruments, 5, cause not stated, 3, strangulation, 2 and asphyxiation and jumping from a high place, each one Of the twenty-one homicides, 18 were due to firearms, one to hanging, and 2 to other means, and of these deaths, 7 occurred in feuds or affrays

Ages—Of the decedents, 69 were between the ages of 21 and 30, 220 between the ages of 31 and 40, 341 between 41 and 50, 485 between 51 and 60, 519 between 61 and 70, 415 between 71 and 80, 212 between 81 and 90, 30 between 91 and 100, while one physician attained the age of 102 years The greatest mortality occurred at the age of 61, when 68 deaths were recorded, at 70 with 65 deaths, at 62 with 63 deaths, at 55 with 58 deaths, at 60 with 56 deaths, at 75 with 54 deaths, at 56, 58 and 64 with 53 deaths, at 54 with 51 deaths, and at 44, 59 and 66, when 50 died There were 9 deaths at 91, 7 each at 92 and 93, 3 at 94, 2 each at 96 and 98, and one death at 102 years

Years of Practice—By periods of ten years, physicians died as follows during the year in the first decade, 172, of whom 2 had been in practice less than one year and 16 less than two years, in the second decade, 356, third decade, 511, fourth decade, 598, fifth decade, 453, sixth decade, 221, seventh decade, 101, and eighth decade, 9, of whom 5 had been in practice 70 years, 2, 75 years, and one each 78 and 79 years

Military Service—During the year, 256 physicians died who had served in the Civil War, and of these 68 had followed the fortunes of the Confederacy, one having been the surgeon of the Confederate cruiser *Alabama* during her historic cruise of destruction, 86 had been medical officers of United States Volunteers, one a medical cadet, 11 had served in the hospital corps and 2 had been army nurses There were 5 veterans of the Mexican War, 2 had served in campaigns against Indians, 22 had been in the Spanish-American War, and 20 had seen service in foreign wars The Medical Corps of the Army lost 4 officers, of whom one had been surgeon general, 3 had been members of the Medical Reserve Corps, and 18 had been contract or acting assistant surgeons The Navy lost 12 medical officers, the Public Health Service 8 officers, the Indian Service, 6 physicians, and the organized militia, 36 medical officers, of whom 8 had attained the grade of surgeon general

Medical Positions—Medical colleges sustained the loss of 148 professors, lecturers, instructors or demonstrators, hospitals lost 355 members of staffs, municipalities, townships and counties, 194 health officers, and boards of education or school boards, 77 members There were 54 deaths of members of state boards of health, medical examination and registration, and charities, 47 of coroners and medical examiners, and 123 of railway surgeons

Civil Positions—Of those who died, one had been a member of Congress, 2, governors of states, 4, United States consuls, 11, members of state senates, 39, members of the lower houses of legislatures, 35 had been mayors, 33, aldermen, 62 had served as justices of the peace, as clerks in the government service, or in various other civil positions, 15 had been postmasters, 24, editors of medical or lay journals, 19 had been clergymen, of whom 4 were foreign missionaries, 4 had been attorneys, 107, druggists, 40, bankers, 16, medical directors of life insurance companies, 10, dentists, 3, presidents of railway companies, 6, surgeons on steamships, and 4, chemists

Association Fellowship—Of the 437 Fellows of the American Medical Association who died during 1915, one had been president, one had been a member of the Judicial Council, and two had been members of the House of Delegates

COMPLEMENT FIXATION IN TUBERCULOSIS

Stimson has recently reviewed the literature of complement fixation in tuberculosis and contributed some important original work to this subject[1] The complement fixation test in syphilis — the Wassermann reaction — has proved itself to be a great practical aid in both the diagnosis and therapy of this disease, in spite of certain rather serious limitations and uncertainties As its limitations become better understood and the technic of its performance more uniform, its value, already great, will undoubtedly still further increase It has unquestionably been such a distinct and helpful advance over former methods that its practical application, *mutatis mutandis,* to some other diseases, with anything like an equal degree of success, would be welcome This is especially true of tuberculosis Much work has been done with complement fixation methods in tuberculosis, and while success so far has not been achieved, there is nevertheless a distinctly hopeful aspect in the literature on the subject Stimson thinks that the method even now could be used with advantage in institutions

In this work, as in the Wassermann test for syphilis, the multiplicity of antigens is a disturbing factor The and different antigens vary greatly not only in their degree but also in their kind of sensitiveness The selection of an antigen, therefore, becomes a matter of great importance Such a selection can be made with satisfaction only after wide experience and the correlation of laboratory experience with clinical findings and results An antigen may give results of poor value in diagnosis, yet of high value in prognosis and therapy, and vice versa Of the many antigens used in complement fixation in tuberculosis, Stimson gives first place to Besredka's egg medium antigen[2] for purposes of diagnosis This antigen appears to be difficult to prepare, and is reported by many to give fixation with syphilitic antibodies also, though Bronfenbrenner[3] in his work did not find this true Other important antigens are those composed of suspensions of tubercle bacilli in salt solution, antigens elaborated by Calmette[4] and his co-workers, especially his peptone-soluble antigen, and antigens described as alcohol or alcohol-soluble ether extracts

As for the other elements of the reaction, the Wassermann type of technic has been generally employed, with the use of sheep cells, rabbit hemolytic amboceptor and guinea-pig complement Stimson, in his work, made use of four different antigens His technic was of the Wassermann type He tested a large number of serums, and his tabulated results are interesting and important

A consideration, in a general way, of the status of complement fixation work in relation to tuberculosis leads to the conclusion that, from a practical standpoint at least, this method for the present leaves much to be desired With increasing experience, however, the employment of a uniform technic, the careful estimation of the value of different antigens, and especially the ability to interpret correctly the results obtained, the method may, at no remote time, prove of much significance in the diagnosis, prognosis and management of tuberculous cases The interpretation of the findings just now seems to be surrounded with peculiar difficulty, and the influence of many different factors must be carefully considered

Depending on the antigen and technic employed, positive fixation in tuberculous cases can be demonstrated from a maximum of 95 per cent of cases down to a much lower figure The antigens giving the higher percentages are of more value in diagnosis, those giving the lower figures may often be of value in imparting information as to the stage, extent and activity of the process "Positive reactions are not indicative of immunity, and the reaction should not be described as an immune reaction" The increase of complement fixing bodies due to the therapeutic use of products derived from the tubercle bacillus, strange to say, does not necessarily indicate improvement in the condition of the patient — indeed, the evidence is sometimes rather in the opposite direction It would seem that information of value can be more readily gained from repeated tests along with careful consideration of all the clinical factors It should be fully appreciated that negative reactions seem to have no value in excluding tuberculous infection

---

[1] Stimson A M Complement Fixation in Tuberculosis Bull. 101 Hyg Lab U S P H S 1915

[2] Besredka Ztschr f Immunitatsforsch 1914 xxi 77

[3] Bronfenbrenner J The Complement Deviation Test with Besredka s Tuberculin and the Occurrence of Tuberculosis Among Syphilitics as Diagnosed by this Test Arch Int. Med December 1914 p 786 Ztschr f Immunitatsforsch 1914 xxiii 2 221

[4] Calmette and Massol Compt rend Soc. de biol 1912 1913 Ann de l Inst Pasteur 1914 No 4 p 339

It may be mentioned, finally, as of interest that some authors, notably Debre and Paraf,[5] have attempted, with some apparent degree of success, to demonstrate tuberculous antigens in certain secretions and exudates, such as urine and pleuritic exudates, using as a test fluid a serum known to contain tuberculous antibodies This sort of reverse application of the reaction may in time prove of value in the diagnosis of the seat of the lesion, especially in genito-urinary tuberculosis

PROTEINS AND ANAPHYLAXIS

The condition of abnormal sensitiveness produced in an animal by the injection of a foreign protein — the phenomenon now commonly designated as anaphylaxis or allergy — is believed to exhibit a high degree of specificity with respect to the substances used to provoke a response A preliminary injection of serum renders the animals hypersensitive to serum but not to milk or other protein-containing materials, a preliminary treatment with milk induces sensitiveness to milk proteins but not to serum, and so on On the basis of information acquired along these lines, the anaphylactic response has been used as a test for proteins from individual sources, as in the identification of blood

The extensive researches of Wells and Osborne,[6] in particular, have shown that these unique reactions of the proteins are undoubtedly connected with their chemical make-up rather than their biologic origin This has been demonstrated as the result of an elaborate study of vegetable proteins from diverse sources, carefully purified in order to separate them as completely as possible from all other substances The anaphylaxis reaction has been obtained between fluids and extracts of tissues of plants or animals of different though closely related species These fluids have been composed of mixtures of so many substances of practically unknown chemical constitution that attention has heretofore been directed almost exclusively to the biologic relations of the substances causing the anaphylaxis reaction, and relatively little consideration has been given to their chemical relations In the case of the gliadins from wheat and rye, and the hordein of barley, however, a common anaphylaxis reaction is developed by two chemically distinct, but similar, proteins of different biologic origin This indicates clearly that the specificity of such a reaction is determined by the chemical constituents of the protein rather than by its biologic origin Wells and Osborne have pointed out that this is in harmony with the fact that chemically closely related proteins have, as yet, been found only in tissues which are biologically nearly related They have also observed that the "group reactions," characteristic of biologic reactions between closely related species, which have usually been interpreted as indicating the presence in related organisms of identical as well as distinct proteins, can really be exhibited by single isolated proteins from related organisms As they express it, biologic relationship and chemical relationship seem to be much the same

When native proteins are chemically altered so that new artificial derivatives are produced, their anaphylactogenic properties appear to be lost Proteoses and peptones, for example, prepared from albumins by digestion or other hydrolytic procedures, are practically inert in the direction of developing hypersensitiveness They do not cause intoxication of animals sensitized with the original proteins It has long been stated that "proteoses" occur naturally in a variety of plants, at any rate, proteins having their characteristic solubilities and other properties have been isolated from a diversity of seeds Wells and Osborne[7] have observed that, unlike the familiar digestion derivatives, these vegetable preparations, commonly designated as "proteoses" because their solubilities are like those of the proteoses produced by the action of pepsin or trypsin on native proteins, exhibit strong anaphylactogenic properties Indeed, their potency exceeds that of most vegetable proteins studied, probably because of their great solubility in the body fluids The products of hydrolysis, that is, the proteoses, prepared from companion vegetable proteins seem to have no anaphylactogenic properties Wells and Osborne conclude, therefore, that the vegetable "proteoses" belong to a group of proteins which are chemically different from any heretofore recognized They resemble highly soluble native proteins in their anaphylactogenic capacity, and are probably quite as complex in their chemical constitution Their designation as "proteoses" is consequently improper

The facts here cited tend to enhance the value of the anaphylaxis reaction and give it added significance Its specificity becomes the more striking in the differentiation of so many of the "proteose" preparations from other proteins in the same seeds The demonstration of the dependence of the specificity on chemical constitution is an important contribution

---

[5] Debre and Paraf Compt rend Soc de biol, 1911, p 228

[6] Their papers were published in the Journal of Infectious Diseases as follows I, 1911, viii, 66, II, 1913, xii, 341, III, 1913, xiii, 103, IV, 1914, xiv, 364, V, 1914, xiv, 377

[7] Wells H G, and Osborne, T B The Anaphylactic Reaction with So Called Proteoses of Various Seeds The Biologic Reactions of the Vegetable Proteins, VI, Jour Infect Dis, 1915, xvii, 259

Current Comment

THE POSSIBILITIES OF POISONING WITH CARBON MONOXID

The progress of science and the improvement of industrial conditions have made possible the prevention and elimination of many hygienic dangers that beset man in his daily life At the same time, newer modes of living and processes of manufacture have brought novel and often unanticipated menaces to the welfare of those who are concerned with them An illustrative instance of this is the history of carbon monoxid as a source of poisoning This product has long been known as a harmful admixture in certain combustion products, and, when attention was directed to it from time to time steps were taken to avoid the danger involved Mild types of ordinary combustion product poisoning still occur occasionally in homes as the result of heating apparatus with poor drafts, in gas plants, and in other places, but they are recognized and subsequently averted by proper ventilation The installation of large electric furnaces, such as those in use at Niagara Falls, brought the possibility of carbon monoxid poisoning in an unusual way Tons of the gas are liberated in these plants every day, but provision is made for its prompt oxidation to carbon dioxid so that no harm whatever is threatened except when there is an occasional temporary imperfection in the oxidation and ventilation arrangements The danger from illuminating gas has increased with the augmented use of "water gas" in this country This is particularly harmful because of its large content of carbon monoxid It furnishes a considerable proportion of the deaths by poisoning A "miner's disease" of some interest has been associated with carbon monoxid derived principally from explosives used in blasting The domestic forms of poisoning with carbon monoxid gas from the use of defective heating appliances are not always of moderate severity Usually headache, nausea and circulatory failure are the sole symptoms, but the cases may often assume a more serious aspect This is possibly owing to the subtle ways in which the poison gains unsuspected entrance into the system There may be repeated exposure to danger which does not reveal itself until a careful investigation is made It is sometimes almost impossible to detect the presence of the gas and to determine what part it plays in symptoms of malaise Even small percentages of carbon monoxid become a menace to health when the intoxication takes a chronic form For this reason, if no other, every source of poisoning with this gas should be ascertained when possible That carbon monoxid can arise in connection with cooking by gas has been demonstrated anew by Meyer[1] Whenever a gas flame comes into contact with cold surfaces the possibility of imperfect combustion arises, and the products will include more or less carbon monoxid Conditions for this are found in the arrangement of many of the gas water heaters that have attained considerable popularity in recent years Complaints of headache and mild symptoms of carbon monoxid poisoning are sometimes presented by kitchen or laundry workers who are accustomed to remain in poorly ventilated rooms containing modern household devices of the sort referred to The institution of suitable hoods and drafts is an essential part of any larger outfit of such gas heating appliances The danger of combustion gas poisoning is thereby averted The gas engine and the gasoline motor have also brought with them the unanticipated possibility of inducing intoxication from carbon monoxid Whenever the explosion of the combustible mixture is incomplete or of moderated intensity, this gas may be formed in not inconsiderable amounts Outdoors this is of little consequence, but indoors carbon monoxid as well as other combustion gases of the omnipresent motor may produce dangerous contamination of the atmosphere This should now be widely recognized in the interests of hygiene

THE EXCRETORY FUNCTIONS IN CHILDREN

The occurrence of uric acid infarcts or deposits of uric acid and urates, in the kidneys of a large number of infants dying within the first few days of life, has given occasion for various speculations At one time this phenomenon was explained on the hypothesis of a lessened oxidative power on the part of the very young, whereby less of the uric acid formed in intermediary metabolism was destroyed, and therefore more accumulated in the organism Along with this theory went the assumption of a poor solvent power of infant's urine for uric acid The explanation fails to satisfy us because there is no real evidence of impaired oxidative capacity in the young, and, quite aside from this, there is today no reason for considering the possibility of a further oxidation of uric acid in the body In man this purin derivative is regarded, not as an intermediate substance, but as an end-product which is ordinarily excreted with considerable ease[1] Another explanation for the infarcts must be sought A more direct way of ascertaining the excretory capacity of the kidneys in children has been followed by Tileston and Comfort[2] of Yale University School of Medicine In a variety of both healthy and sick children they have estimated the rate of phenolsulphonephthalein excretion in the urine and also the nonprotein nitrogen content of the blood The latter designates the nitrogen of those substances remaining in the circulating medium after removal of the proteins, and includes the urea, creatinin, amino-acids, uric acid and ammonia of the blood The outcome of these investigations appears to indicate a better secreting capacity of the child's kidney than that of the adult There are, of course, numerous statistics now available in respect to all of these excretory or retention factors determined by the methods just cited in both health and disease in the adult The procedures have already found a place in the routine of careful clinical examinations Inasmuch as few data have as yet been reported for children, it seems worth while to cite added conclusions of Tileston and Comfort The determination, they say, of the total nonprotein nitrogen and urea of the blood is of great assistance in the diagnosis of uremia, and as a guide to the treatment of nephritis, a marked increase in these substances indicating actual or impending uremia, and calling for a diet low in protein In the diagnosis of nephritis it is inferior to other methods, because *many cases of nephritis show no retention of nitrogen* The phenolsulphonephthalein test is valuable in the diagnosis of nephritis, showing probably better than any other method the degree of impairment of renal function In the diagnosis of uremia and as a guide to diet it is inferior to blood analysis, for a low phenolsulphonephthalein output may occur without retention of nitrogen

---

[1] Meyer L G Ueber Luftverunreinigung durch Kohlenoxyd mit besonderer Berucksichtigung einiger weniger bekannter Quellen derselben Arch f Hyg 1915 lxxxiv 79

[1] The Effect of Purin Foods on the Uric Acid *Content of the Blood*, Current Comment The Journal A M A, Dec 18 1915 p 2172

[2] Tileston Wilder and Comfort C W The Total Nonprotein Nitrogen and the Urea of the Blood *and the* Phenolsulphonephthalein Excretion in Children Am Jour Dis Child October 1915 p 27

"WHOSE BREAD I EAT, HIS SONG I SING"

Last September the United States Department of Agriculture issued a press bulletin describing the work of the Bureau of Chemistry in prosecuting the vendors or manufacturers of fraudulently exploited "patent medicines" At the end of the bulletin was a tabulated list of "other preparations against which the government's charge that they were falsely or fraudulently labeled was sustained by the federal courts" Tucked away in the list was a product often euphemistically described as an "ethical proprietary" but none the less essentially a "patent medicine" — "Gray's Glycerine Tonic" The editor of the *Atlanta Journal-Record of Medicine,* apparently not having read the bulletin with any great degree of care, published it verbatim Thus it was that the *Atlanta Journal-Record of Medicine* for September, 1915, presented the interesting sight of a half-page advertisement of "Gray's Glycerine Tonic" in the same issue that contained the government's article classifying "Gray's Glycerine Tonic" among the false and fraudulent products! What happened? In the very next issue the *Atlanta Journal-Record of Medicine* apologized thus editorially

> "In our September issue, Gray's Glycerine Tonic Comp was inadvertently included in a list that seemed to be under the ban of the Government and very likely an injustice has been done the Purdue Frederick Company which we desire to undo as far as possible"

Did the editor mean by "inadvertently included," that he would have omitted "Gray's Glycerine Tonic" from the government's list had he noticed it in time? If so, on what grounds? It is a fact that "Gray's Glycerine Tonic" was one of the "Fifty Falsely Labeled Medicines", it is also a fact that it is one of the products that government officials and the federal courts have declared to be sold under claims that are "false, fraudulent and misleading" If "Gray's Glycerine Tonic" was fraudulently exploited — and the government and the courts have so declared it — why is it necessary for the editor of a medical journal to apologize to his subscribers for having told them so? The only reason that occurs to us is expressed in the caption to this article

WHAT IS LIQUID PETROLATUM?

The use of liquid petrolatum in chronic constipation, which has recently become the vogue, has naturally been commercialized, as a result, also naturally, claims of superiority of one brand over another have been made Some of these claims may have been well founded, others certainly are not Some have claimed superiority for those products made from Russian oil over those made from American oils As naphthene hydrocarbons predominate in Russian crude petroleums, and paraffin hydrocarbons in many or most American crude petroleums, it was assumed that the petrolatums derived from these sources differed from each other in like manner Both the naphthenes and the paraffins are chemically inert, but some unexplained therapeutic superiority has been assumed to reside in the naphthenes Consequently, it has been urged that the American liquid petrolatums should not be used internally So far these claims and counterclaims have been based on much theory and little fact The Journal publishes this week a contribution by Benjamin T Brooks,[1] Senior Fellow in charge of petroleum investigations at Mellon Institute, Pittsburgh Brooks calls attention to the fact that Marcusson in 1913 pointed out that most of the so-called "mineral oils" used for therapeutic purposes contain no paraffin hydrocarbons whatever, that they consist solely of naphthenes and polynaphthenes Brooks confirms this statement so far as American liquid petrolatums are concerned He states that many American petroleums, such as most of those from the Gulf region, are like the Russian in containing no paraffin, and that, in the case of those petroleums that do contain it, the customary refinery method of removing paraffin is sufficient to produce true naphthene and polynaphthene petrolatums "The claim that only Russian oils belong in this class," he says, "has no basis in fact and has been advanced presumably for business reasons" The name "paraffin oil" applied to these liquid petrolatums, then, is a misnomer The new name, "white naphthene oils," suggested by Brooks, seems superfluous, however, since the pharmacopeial title, "liquid petrolatum," is subject to no such objection

PROTONUCLEIN ONCE MORE

Eight years ago the Council on Pharmacy and Chemistry[2] published a painstaking and exhaustive report on Protonuclein and other products of Reed and Carnrick This report, one of the most admirable and scientific published by the Council, shows conclusively that the whole "theory of Protonuclein therapy" is a tissue of pure speculation, into whose texture are woven only a few slender threads of fact And yet, what has this report accomplished? If it has been read by the medical profession at large, it has been but little heeded, *for not only are these products still being advertised,* but also the firm has increased its list of products *The Council therefore now issues a second report on*

---

[1] Brooks, Benjamin T The Nature of Pharmaceutic Naphthene Oil (Liquid Petrolatum) The Journal A M A this issue p 24

[2] Reed and Carnrick's Methods, The Journal A M A, Oct 5, 1907

Protonuclein, in which, also, is discussed a later Reed and Carnrick preparation, Protonuclein Beta[3] The fact that the firm of Reed and Carnrick is putting forth new products while pushing the sale of the old is proof that it is still receiving the patronage of a certain portion of the medical profession Is the medical profession proud of the fact?

Medical News

(Physicians will confer a favor by sending for this department items of news of more or less general interest, such as relate to society activities, new hospitals, education public health etc.)

ILLINOIS

Personal.—Dr George P Gill, Rockford, who has been on duty with the Chicago unit of physicians in France left for home, December 15——Dr Joseph S Lundholm, Rockford, has been appointed medical director to the Municipal Antituberculosis Sanatorium

Resolutions Regarding Fairbrother—At a meeting of the St Clair County Medical Society held in East St Louis December 17, resolutions were adopted expressing appreciation of the late Dr Henry C Fairbrother and the loss sustained by the medical profession and the community at large by his death

Northwestern District Society to be Formed—At a meeting of the physicians of northwestern Illinois held in Freeport, December 16, the principal address was delivered by Dr Joseph B De Lee, Chicago and it was decided to effect a permanent district organization, to include physicians in Stephenson, Carroll, Ogle and Jo Daviess counties

Work of the State Board—Dr C St Clair Drake, secretary of the State Board of Health, mentions among the important achievements of the board, the authority given to municipalities to levy a special tax for the disposal of garbage, the progress made in the facilities for registration of births and deaths, the establishment of branches of the state laboratory at Mount Vernon and Chicago, the revision of the rules and regulations for the control of communicable diseases, and the additional propaganda through the monthly bulletin of the board

Chicago

Fenger Memorial Fund.—The directors of the Fenger Memorial Fund announce that $550 has been set aside for medical investigation in 1916 This will be used to pay all or part of the salary of a worker, the work to be done under direction in an established institution, which will furnish the necessary facilities and supplies free of cost. It is desirable that the work undertaken should have a direct clinical bearing Applications should be addressed to Dr Ludvig Hektoen, 637 South Wood Street, Chicago

Gorgas in Chicago—The Chicago Medical Society, Chicago Single Tax Club and medicomilitary organizations of Chicago have united to give a dinner to Major-General William C Gorgas Surgeon-General, U S Army, at the Auditorium Hotel January 10 A reception will be held from 6 to 6 30 Dr William A Evans will officiate as toastmaster and places may be secured by communicating with Mr Ernest Batten 508 Schiller Building——The annual meeting of the Geographic Society of Chicago will be held January 8, at 7 p m, in the gold room of the Congress Hotel On this occasion General Gorgas will be presented with the gold medal of the society, the presentation address being made by Dr Frank Billings General Gorgas will deliver an address on 'Sanitation in Its Relation to Geography"

KENTUCKY

Memorial to Dr Vance—It is proposed by the friends of the late Dr Ap Morgan Vance Louisville to endow a bed in the Children's Free Hospital, in his memory

Trachoma Clinic—Surg John McMullen, U S P H S, who has been conducting trachoma clinics in East Louisville, held a free clinic in Greenville December 21 to 23 assisted by Dr Joseph N McCormack of the State Board of Health, at which many persons affected with trachoma or kindred disease of the eye, were treated

Society Elections—The Muldraugh Hill Medical Society, whose membership is made up of the counties of Bullitt, Breckenridge, Grayson, Green, Hardin, Hart, Jefferson, Larue, Marion, Meade, Nelson and Washington, convened for its annual meeting in Elizabethtown, December 9, elected Dr Samuel H Ridgway Shepherdville, president, and reelected Dr Gaylord C Hall, Louisville, secretary

Health Officers Meet.—The second annual meeting of health officers of Kentucky was held in the Armory, Louisville, the first week in December when 121 out of the 135 health officers of the state were in attendance Attendance at this meeting is mandatory and the expenses are borne by the county——The semiannual examination for license to practice medicine was held at this time by the State Board of Health

Personal—Dr J M Jameson, Bowling Green, who has been under treatment at St Joseph's Hospital for several months on account of injury to the hip, is reported to be making satisfactory progress toward recovery——Dr John R Murnan, Covington, underwent operation for appendicitis at Lakeside Hospital, Cleveland, Ohio, November 30——The residence of Dr Hugh E Prather, Hickman, was burned, November 25, with a loss of $4,000

LOUISIANA

Antituberculosis League Election—At the eighth annual meeting of the Louisiana Antituberculosis League held in New Orleans, December 16, the following physicians were elected to office president, Dr J George Dempsey, vice president, Dr Otto Joachim, secretary, Dr G Farrar Patton, treasurer, Dr Everard W Mahler, and other members of the executive council Drs Arthur I Weil, Benjamin A Ledbetter, Sidney K Simon, George S Brown, Charles L Chassaignac, Ernest A Robin, G Farrar Patton, William H Seemann, Edward L McGehee, George S Bel and Everard W Mahler

State Should Own Laboratory—At the quarterly meeting of the State Board of Health, December 18, the board adopted the suggestion of President Oscar Dowling that a bacteriologic laboratory be established From this laboratory are to be shipped, to every board of the state, antitoxins and serums which will be furnished to the poor free of charge The board also made recommendations that additional employees be engaged, that midwives be organized and that assistance be given to them, that financial assistance be given to local units providing they will double the amount offered by the board, and that a board of reference be established to act in questions of doubt

MARYLAND

Hopkins Gift Attacked—Argument has begun in the circuit court of Baltimore, on the question whether the late Miss Mary E Garrett had an absolute interest or only a life estate in certain property she inherited from her father and a part of which she bequeathed to Miss M Carey Thomas for life and then to the Johns Hopkins University, as a part of a permanent endowment of its medical school

Personal.—Dr William H Welch of the Johns Hopkins University, who is on his way home from China, has been decorated with the Third Order of the Sun by the Mikado of Japan——Dr Martin F Sloan, medical superintendent of the Eudowood Sanatorium at Towson has returned from a trip to California and through the South——Dr Charles E Fox, formerly connected with the Maryland State Board of Health, concerning whose welfare in Serbia there were many rumors, is safe in Uskub, where he is a member of the American Sanitary Commission that left Saloniki, Greece, after completing a campaign against typhus——Dr William J Todd, who has been medical adviser to both the faculty and students of Mt St Agnes College at Mount Washington for a quarter of a century, has been presented with a silver chocolate service—Dr Christopher C Wingo celebrated his ninety-second birthday recently at his home in Baltimore——Dr Charles A. Overman, Baltimore, who has been ill at the University Hospital for the past five months, is able to leave the hospital——Dr Marshall B West, Catonsville, who was operated on recently at the Maryland University Hospital for appendicitis has returned home convalescent.——Dr Holliday H Hayden, Baltimore, who was operated on for appendicitis December 2 at Mercy Hospital is convalescent——Dr Charles F Nolen, Baltimore, who was recently operated on at the Union Protestant Infirmary, has recovered and returned to his home in Relay

---

[3] This issue page 48

MASSACHUSETTS

Leprosy—A case of leprosy was discovered in Boston, December 11 Another case was discovered five weeks earlier The latest victim was a sailor 72 years old, born in this country, but who had followed the sea for many years and who had visited many Asiatic ports

Staff Appointments—The following appointments have been made to the medical staff of the Boston Dispensary Dr Charles H Hare, consulting surgeon, associates, Drs Edward L Trombley, Robert L De Normandie and Stephen Rushmore, assistant surgeons of the gynecologic department Drs Alonzo K Paine, John B Swift, Jr, and John T Williams, assistants, Drs Raymond S Titus and Foster S Kellogg

Medical School Changes—In Harvard Medical School the following appointments are announced Dr David Cheever associate in surgery, Drs James L Huntington, Frederick C Irving, Foster S Kellogg, and John B Swift, Jr, fellows in obstetrics, Dr Samuel C Harvey, Cabot fellow in charge of the laboratory for surgical research——Dr Walter W Palmer, Boston, has resigned as fellow in medicine, Dr Townsend W Thorndike, as fellow in dermatology, and Dr Gilbert Harrax, as Cabot fellow

Personal—Dr Paul H Provandie has been elected a member of the school board of Melrose Highlands, and associate medical examiner of Middlesex County——Dr William S Boardman, Boston, was seriously injured, December 10, by being knocked down by a street car in Jamaica Plains——Dr Edward H Bushnell has been elected school physician at large of Quincy——Prof Selskar M Gunn of the Massachusetts Institute of Technology has been appointed chief of the new department of hygiene by State Commissioner of Health McLaughlin The duties of the division consist of the direction of child welfare work, public health nursing, the promotion of traveling exhibits, public lectures and the distribution of health bulletins and pamphlets

Consultation Clinic at Hospital—The Massachusetts General Hospital will open a consultation clinic for people of moderate means on January 25 Every Tuesday and Friday afternoon at 2 o'clock patients referred by their physicians will be received at the outpatient department on Fruit Street for consultation and diagnosis only These are hours apart from those of the regular outpatient clinic Physicians are requested, if possible, to accompany their patients When a physician is unable to accompany his patient, he will be expected to send a letter referring him to the hospital This letter will be answered and as far as possible the diagnosis given and treatment suggested The clinic is designed for the benefit of families with small incomes A fee of $5 will be charged When a Roentgen-ray examination is needed a fee of $2 to $3 will be charged in addition For certain other laboratory tests, charges not to exceed $1 will be made The $5 admission fee includes more than one visit when these are necessary for a diagnosis

Free Medical Lectures at Harvard—Announcement is made of an annual series of free public lectures to be given under the auspices of the faculty of medicine and Harvard University at 4 o'clock on Sunday afternoons at Harvard Medical School The schedule is as follows

Jan 2—Dr Robert B Greenough Cancer

Jan 9—Dr W H Potter Military dentistry experiences in a three months' service in the American Ambulance Hospital Paris

Jan 16—Dr Richard P Strong Progress in combating epidemics of some infectious diseases

Jan 23—Dr Robert B Osgood Orthopedic problems presented by the European War

Jan 30—Dr James A Honeij Leprosy Cambridge

Feb 6—Dr C Morton Smith Syphilis

Feb 13—Dr Frederick H Verhoeff Some simple facts regarding the eyes that everyone should know

Feb 20—Dr William H Robey, Jr The value of physical examination to the individual

Feb 27—Dr Charles J White Occupation as a contributing factor to certain skin diseases

March 5—Dr W R Bloor The role of fat in the nutrition of man

March 12—Dr Franklin S Newell The care of pregnancy (To women only)

March 19—Dr Joseph L Goodale Hay fever and asthma

March 26—Dr Franklin W White Chronic indigestion

April 2—Dr James R Torbert A comparison of the methods for the relief of pain in childbirth (To women only)

April 9—Dr P G Stiles The present conception of an adequate diet

April 16—Dr George B Magrath Death by accident, some of its causes and how to eliminate them

April 23—Dr Harris P Mosher The management of foreign bodies in the trachea, bronchi and esophagus

April 30—Dr Charles V Chapin What the individual can do to protect himself from infection

May 7—Dr Roger I Lee The importance of physical examination in health as shown by the examination of Harvard students

MICHIGAN

Midwives—At Detroit a midwife was convicted of practicing midwifery without a license and fined $25 The health officer, Dr William H Price, contends that the health board has a right to compel midwives to register and to regulate their practice The court in this case upheld the contention

Appropriation for Tuberculosis—As an aid in the fight against tuberculosis, the common council of Detroit, November 23, appropriated from the contingent fund an additional sum of $13,020 This appropriation is to cover the care of thirty-five patients from December 1 to July 1

Medical Scholarship Established—The board of regents of the University of Michigan has been notified that W R Wooden, Battle Creek, has established a scholarship in medical research for one year in memory of C C Beach, Battle Creek *This scholarship has been awarded Dr Carl C* Warden, Ann Arbor

Drink Cure for Prison Inmates—It is reported from Lansing that Governor Ferris and the State Board of Pardons, after a study of the records of men imprisoned in the penitentiaries of that state, have come to the conclusion that drink and drugs are responsible for much of the crime which causes many of the men to be sent to prison The governor is quoted as expressing the opinion that prisoners addicted to either of these habits should be given treatment while in prison

Personal—Dr J T Stewart Hamilton, for four years medical director of the Harper Hospital, Detroit, has been elected superintendent to fill the vacancy caused by the death of Dr O Wayne Smith——Dr Don M Griswold, Grand Rapids has gone to Trinidad where he will study the hookworm disease in the interest of the International Commission of Rockefeller Institute Later Dr Griswold will go to London for a course of study in the School of Tropical Medicine and after completing this course he will go to Mahe, India——Dr George C Bassett, Detroit, has been elected medical director of the Order of the Amaranth——The $10 000 damage suit instituted by Dr Louis N Yerkes, Elk Rapids, against the estate of Edward Leszynski, et al, in which the physician sought to recover damages for injuries sustained when his motor car collided with the automobile of the plaintiff, resulted in a verdict of $3,000 against the estate——Dr Karl Dubpernell, Detroit, fractured his right arm while attempting to crank his motor car, recently——Dr Edward J Strick, Holland, has returned after several years' residence as a medical missionary in Amoy, China——Dr Frederick J Larned, for several years physician and surgeon in the Upper Peninsula of Michigan, who has served as an intern in the Infants' and Children's Hospital, Boston, for nearly two years, has located in Grand Rapids

NEBRASKA

Personal—Dr Harry J Pittock Falls City, has been appointed resident physician of the La Vina Sanatorium, Pasadena, Calif——Dr John W Duncan, Omaha, was injured recently in a collision between his automobile and a coal wagon

Health Officers to Meet—The Nebraska Public Health Association will hold its annual convention at the Hotel Rome, Omaha, January 25 and 26 The meeting is under the auspices of the State Board of Medical Examiners and the State Board of Health, and every one interested in the conservation of health is invited to be present

Honor Von Mansfelde — Seventy-five physicians of Nebraska gathered at Ashland, December 21, to pay tribute to Dr Alexander S von Mansfelde *on the occasion of his* seventieth birthday Dr von Mansfelde was presented with a purse containing $100 in gold, the presentation speech being made by Dr Walter O Henry, Omaha Dr Edward U Rowe, Lincoln, president of the State Medical Society, officiated as toastmaster of the banquet, and Dr von Mansfelde was eulogized by eight speakers and made a fitting response

NEW YORK

Vaccination—A somewhat novel question in the administration of the vaccination law was raised at Rochester by a man who refused to permit his daughter, aged 8, to be vaccinated as required by the vaccination regulations The man had repeatedly sent his daughter to school but she was sent home on account of not having been vaccinated Her father agreed to have her vaccinated if the city of Rochester would assume all responsibility and award proper compensation in case her health was destroyed He was arrested for violation of the compulsory education law and demanded a jury trial It is the intention to make this a test case

Governor Approves Health Budget.—Governor Whitman has endorsed the work of State Health Commissioner Biggs, and has approved of practically all of the requests for health extension work laid out by him for the coming year Dr Biggs submitted requests for appropriations amounting to $626 525, as against $380,775 expended this year The increased expenditures are largely in the departmental laboratories and for personal service It is planned to greatly increase the laboratory service It is announced that free pneumonia serum will soon be available The governor has also approved a request for a physician to make physical examinations of employees of the Civil Service Department

New York City

Correction—Dr F E Sondern, New York City, writes that he is not a member of the staff of the Radium Sanatorium," as stated in THE JOURNAL, Dec 11, 1915, p 2097

Personal.—Dr John S Billings, Jr, has been appointed deputy health commissioner of New York——Dr Simon Flexner of the Rockefeller Institute was honored by the emperor of Japan with the decoration of the Third Order of the Sacred Treasure in recognition of the help and guidance he had given to Japanese medical students in the United States

City Faces Milk Shortage—The milk supply has fallen 40 000 quarts a day below the average which makes a serious shortage It affects however only Grade B milk from which condensed milk is manufactured This shortage is due to the purchase of enormous quantities of condensed milk for the Allies and also to some extent to the effect of the recent cold weather on the cows

Hospitals Must Report Communicable Diseases—The commissioner of health has, by a letter, notified all hospital superintendents in the city that hereafter they will be held strictly accountable for failure to report communicable diseases as required by the regulations of the sanitary code It is said that delay in reporting these diseases particularly typhoid fever, by the superintendents of hospitals as required by section 86 of the sanitary code has handicapped the health department in applying measures for the prevention of the spread of this and other diseases

Diphtheria Cure Faker Convicted—After a two days' trial in the court of special sessions in New York City, George W Felter of Brooklyn, manufacturer of "Dr E H Barton's Antidote," which was described on the package as "a certain and speedy cure for scarlet fever, diphtheria and sore throat," was convicted and fined $100 on the ground of making false and misleading statements with regard to the therapeutic effect of this nostrum Chemical analysis showed that it contained common salt sugar vinegar caramel coloring, oil of peppermint and an extract, probably of red pepper

Doctor Witthaus Leaves Estate to Academy of Medicine—The will of Dr Rudulph A Witthaus, whose estate is valued at about $150,000, leaves the residuary estate after the death of a beneficiary and after deducting a bequest of $20 000 to the New York Academy of Medicine He also bequeathes all of his scientific books to the Academy of Medicine with the request that a portion of the income from the fund left the Academy of Medicine be devoted to maintaining the library accessible to readers during the seasonable hours of every day in the year, especially including Sunday This, however is not a condition of the receipt of said trust fund

Good Housekeeping Wins Suit.—The fight waged by the magazine *Good Housekeeping* against fake cures and nostrums has been upheld by a verdict rendered in the supreme court of New York December 20 The suit was brought by one Mrs Jean Downs Abernethy Bishop, trading as "Jean Downs ' maker of a nostrum known as 'Get Slim,' against the American Home Magazine Company, publisher of *Good Housekeeping* The plaintiff claimed that *Good Housekeeping* and Dr Harvey W Wiley had damaged her business to the extent of $50,000 by condemning 'Get Slim' as an injurious concoction that would not legitimately reduce weight The jury rendered a verdict against the plaintiff

Report from Crocker Research Laboratories—Dr Francis C Wood has recently made public a report of the work done by the laboratories during the past year The attention of the laboratory staff has been engaged during this time along the line of therapeutics, the investigation of the nature of cancer and the production of immunity In conformity with the terms of the gift of the Crocker fund, investigations have been carried out as to the effectiveness of certain so-called cures for cancer Not one of these agents has been shown to possess the slightest influence on tumors in animals Some of them have been tested in hopelessly inoperable carcinoma in man with equally unsatisfactory results In connection with the radium experiments alone 12,000 mice and 2,500 rats have been used Altogether some 52,000 mice, 10,000 rats 1,200 chickens and 1,000 guinea pigs have been used during the year A somewhat unexpected development has been that physicians from various parts of the country have been sending patients for treatment with radium Many of these cases are found to be operable and are transferred to St Luke's and other hospitals for operation with most satisfactory results This relationship with St Luke's Hospital has made it possible to use the income of the Crocker fund for purely experimental purposes

Changes in Sanitary Code—The Board of Health, at its meeting December 23, made several changes in the sanitary code The most radical was that of revoking the present section that prevents the sale in this city of horse flesh as food Dr Emerson stated that the Health Department did not exactly recommend the eating of horse meat, but desired to open the way for placing on the market an inexpensive and healthy food supply He pointed out that the horse never suffers from tuberculosis and practically never communicates a malignant disease to human beings, and for this reason the sale of horse flesh would not have to be placed under the same rigid constrictions that now hedge about the sale of sheep, cows and poultry Other changes made at this meeting were the following The requirement that all private schools in the city must operate under a permit from the Board of Health after Sept 1, 1916, persons suffering from typhoid fever are forbidden to engage in the handling of food, retail milk stores are exempted from the requirement of obtaining permits from the Department of Health, owing to the belief that the present rigid control of the wholesale milk supply and imperative pasteurization furnishes sufficient safeguard for the city's milk supply, the manufacture and sale of toilet preparations containing lead mercury arsenic and other substances detrimental to health is forbidden, a standard of purity for bathing pools has been established, it is required that all water tanks be covered in order to prevent the breeding of mosquitoes, hotels are compelled to use wooden containers for garbages in order to avoid the noise caused by the handling of metal cans

NORTH CAROLINA

State Examination Board Meeting—At a special meeting of the State Board of Medical Examiners held in Raleigh December 7, Dr Edwin G Moore, Elm City, was elected a member to succeed Dr Charles T Harper, Wilmington deceased The next regular session of the board will be held in Raleigh, June 26 to 30

Baptist Publication Discontinues "Patent Medicine" Advertising—The stockholders of the corporation which publishes the *Biblical Recorder* the leading organ of the Baptist denomination of North Carolina, at a recent meeting in Raleigh, ordered the discontinuance of all "patent medicine' advertisements when contracts already entered into have expired

Personal—Dr Herman G Heilig, Salisbury, fell down a flight of stairs recently and sustained painful injuries——Dr Fred C Hyatt, city health officer of Greensboro while paying a professional visit in the country, suffered a concussion of the brain by the overturning of his automobile——Dr Daniel E Sevier, Asheville, health officer of Buncombe County, was painfully injured by the overturning of his automobile in Asheville December 13——Dr Hubert B Haywood, Jr has been elected physician to the Agricultural and Mechanical College, Raleigh, succeeding Dr Henry McKee Tucker, deceased

PENNSYLVANIA

Nurses' Home Dedicated—William Howard Taft former president of the United States and Dr J Chalmers DaCosta of Jefferson Hospital Philadelphia, made the addresses at the dedicatory exercises of the new nurses home for the Allentown Hospital December 23 This structure representing an investment of $140 000 was erected through the bequest of the late Judge Edward Harvey of Lehigh County courts

Personal—Dr George W Mellon, Monaca, who returned from medical service in the Balkans about two months ago, has started for New York City on his return to the war zone in Greece——Dr Mary A Naylor has been appointed by the board of public education of Pittsburgh as medical examiner of teachers applying for retirement——Dr Samuel G Dixon was elected president of the Academy of Natural Sciences at the annual meeting December 22

Hospitals Must Insure Employees—An opinion relative to insurance in the state workmen's compensation system was rendered to State Treasurer Young, chairman of the Insurance Fund Board, by Deputy Attorney-General Hargest, December 10 It holds that the state hospitals and similar state institutions receiving separate appropriations must insure their employees out of their own funds, and cannot have the cost of such liability insurance taken out of the appropriation of $15,000 made for state employees under the compensation act

Philadelphia

To Relieve Dope Fiends—The executive board of the Society for Organizing Charity has appointed H K Landis, agent of the Narcotic Drug Committee, to investigate drug cases for their ultimate relief

New Course Offered by Woman's Medical College—The new course offered by the Woman's Medical College of Pennsylvania, for social workers and club women, which includes practical field work and textbook theory, will be inaugurated the first week in January Special exercises January 7, at the college, will mark the formal opening of the course

Personal—Dr Ralph Luikhart, who has been with the Red Cross in Serbia, returned home December 22——Dr Richard H Harte, ex-director of Public Health and Charities, will sail for France early in January and will work for an indefinite period at the American Ambulance Hospital——Dr J William White, who has been ill in the University Hospital for several weeks, is improving

Woman's College Buys Site—The Woman's Medical College of Pennsylvania, which is situated at the corner of Twenty-First and Seybert Streets, has purchased the dwellings, 1338-40 N Twenty-First Street, together with the dwellings in the rear numbered 2101-03-05-07-09-11 Seybert Street, occupying a lot 31 by 148 feet directly opposite the college, which will be used for an additional building

Memorial Plaque Dedicated—A bronze portrait plaque was formally dedicated and placed on the walls of the Evans Dental Museum of the University of Pennsylvania, December 22, in memory of Willoughby D Miller dental surgeon who graduated from the dental school in 1879 The plaque was the gift of the National Dental Federation, and a replica of it will permanently adorn the walls of the Zahnartlich Institute, Berlin

RHODE ISLAND

Intern Year Required—A report from the Rhode Island State Board of Health states that after Jan 1, 1917, no physician will be allowed to register in that state unless he has served one year in a hospital having at least fifty beds and has attended at least ten maternity cases

Ophthalmia Neonatorum. — Superintendent of Health Charles V Chapin has warned physicians that ophthalmia neonatorum is a notifiable disease, and failure to report cases coming under their observation will subject physicians to a penalty In every case attended by a midwife in which ophthalmia develops a visiting nurse will be sent immediately on receipt of the birth certificate

WASHINGTON

State Medical Examination—The next Washington medical examination will be held at the Davenport Hotel, Spokane, January 4, and not in Walla Walla as erroneously stated in The Journal under the heading "Medical Education and State Boards of Registration"

Personal—Dr Nevin D Pontius, Seattle, has started for Europe for Red Cross service with the Allies——Dr Martin J Lacey has been selected as mayor of Auburn——Dr A Eddie McDowell, Spokane, expects to leave for England about January 1 for service with the allies in the war zone——Dr Daniel M Stone, Seattle, has been appointed president of the State Board of Medical Examiners, succeeding Dr Robert Percy Smith, Seattle, resigned——Dr George M Horton, Seattle, was operated on recently at Rochester, Minn, and is reported to be doing well——Dr Albert E Stuht, Spokane, has been appointed chief of staff of the new tuberculosis hospital of Spokane County

WEST VIRGINIA

Personal—Dr Frank LeMoyne Hupp, Wheeling, expects to go to Europe to take charge of a French Red Cross Hospital——Dr Page A Gibbons, Morgantown, while hunting fell down a hill, fracturing his leg

Qualifications for License—An official communication received from the West Virginia Public Health Council states that at a meeting held November 30 the council adopted a resolution requiring that all applicants for a license to practice medicine in West Virginia who matriculate in the session of 1916-17 and thereafter must present evidence of preliminary qualifications including one year of collegiate work, in addition to an accredited four-year high school education This requirement, therefore, will apply to all graduates of 1920 and thereafter

WISCONSIN

Maternities Must be Licensed—Under the new state law, which becomes effective January 1, the hospitals which regularly handle confinement cases and maintain maternity wards must secure licenses

New Superintendent of Sanatorium—The State Board of Control on December 18 elected Dr Frank Brockway, Oshkosh, superintendent of the State Tuberculosis Sanatorium, Wales, succeeding Dr Norman F Hoffman, resigned

Personal.—Dr Albert F Young, newly appointed superintendent of the Milwaukee County Hospital for the Insane, Wauwatosa, has reappointed the following assistants Drs Frederick F Fowle, Parker T Trowbridge and Harry W Sargeant

Sanatorium Control Conferred—The Tuberculosis Sanatorium at Humboldt and Keefe Avenue Milwaukee which was taken over by Milwaukee County a few months ago, has been turned back to the Social Workers Sanatorium Association and the institution will receive persons in the incipient stage of tuberculosis

CANADA

Ontario Medical Association—The thirty-sixth annual meeting of the Ontario Medical Association will take place in Toronto, May 30 to June 2, in connection with the annual meeting of the Provincial Health Officers' Association A more determined effort than ever is being made to line up the county medical societies into branches of the Ontario Medical Association and it is expected this will finally be accomplished at the coming meeting

College Items—The Royal College of Surgeons of England has decided to add the universities of Toronto, Queen's at Kingston, and Dalhousie at Halifax N S, to the list of universities whose graduates in medicine and surgery may present themselves for examination for college fellowship without first becoming members——Dr Frederick Etherington, in command of Queen's Stationary Hospital at Cairo, Egypt, has cabled the dean, Dr J C Connell, Kingston, that the hospital, now of 600 beds, is to be increased to 1 000 and will be converted into a general hospital

Drug Habit in Toronto—The revenue collector of Detroit states that Toronto, Windsor, Chatham and London, Ont, are headquarters for drug rings It is stated in the Toronto public press that the police of that city believe this to be true and that they have been waging campaigns against the selling and unlawful prescribing of drugs in that city Four Toronto doctors have been convicted and some pedlers have been sent to jail It is said that although the conditions have been laid before the Ontario Medical Council, that body has so far taken no action The police state they intend to continue the campaign against illicit sales of morphin, cocain and heroin until the practice is stamped out of Toronto

Appeal in Vaccination Case Lost—The judicial committee of the privy council, London, Eng, has dismissed the petition of a Montreal woman who requested special leave to appeal against the judgment of the king's bench, Quebec, in favor of the city of Montreal The counsel who appeared for the widow before the judicial committee stated that the case raised for the first time before the courts of the province of Quebec the question of the responsibility of muncipal corporations arising out of the enforcement of compulsory vaccination bylaws The petitioner brought an action against the city of Montreal, claiming $10,000 damages on the grounds that she was obliged to cause her son to be vaccinated that he was vaccinated by medical men employed by the city of Montreal with vaccine supplied by the city, and that owing to alleged negligence and bad quality of the vaccine used her son's health was so seriously and permanently impaired as to prevent him from earning his livelihood The city denied negligence, and pleaded that the boy was vaccinated with care and skill, and that the vaccine was the best in existence.

Personals—Major Daniel P Kappele, Hamilton, Ont, who is abroad as second in command of the Fifth Field Ambulance has been promoted to the command of a field ambulance of his own and gets the rank of lieutenant-colonel——Dr Leeming Carr is the new chairman of the board of education Hamilton, Ont——Lieut-Col David W McPherson Toronto, who was in command of No 2 Canadian Field Hospital in France with the First Division has been placed in command of the Canadian Convalescent Hospital at Woodcote Park, Epsom Surrey England Colonel McPherson was given a farewell dinner by his fellow officers in France and presented with cut glass mounted in silver——Dr William D Sharpe Brampton Ont, has returned home from Serbia——Maj Frederick B Carron a graduate of McGill University and who was in practice in Brockville, Ont before leaving for England with the second Canadian contingent has been appointed supervisor of military hospitals in England——Dr J R Goodall Montreal has been appointed medical officer of the Second Brigade of the Canadian Expeditionary Forces, which comprise the Fourth, Fifth and Sixth Canadian Mounted Rifles now in France.——Capt James Roberts M O H Hamilton Ont is in charge of a base hospital at the Dardanelles He has recovered from a recent illness——Dr John E. Hett has been reelected mayor of Berlin Ont——Dr Charles C Bell, Chatham Ont has accepted the appointment of assistant director of medical services at London Ont.——Dr David R Moore Stanley N B has volunteered for active service——Dr J F Adamson Edmonton, Alta, is attached to the Floriana Hospital at Malta

Ontario Universities and the Medical Commission—Prof Alexander McPhedran gave evidence before the Ontario Medical Commissioner last week He held that the final university examination was a more thorough test than that of the medical council Professor McPhedran declared "We put each student at the University of Toronto through a course of work with six patients and we make him demonstrate that he has a good working knowledge of the various diseases Further the student's final year is wholly practical rather than scientific A record is kept of the student's work so that it becomes impossible for him to make a pass showing during the year unless his standing is good" Professor McPhedran also stated to the commissioner that sometimes when the total percentage was not sufficient to qualify the examiners would, if the student's record was exceptionally good raise the percentage so many points to permit of him going through President Falconer considered that the dual control of examinations by the universities and the medical council was humiliating as once a student gets his degree he should be entitled to practice Dr Hibbert W Hill for the Western University, London agreed with the position taken by the University of Toronto Mr Osler, for the College of Physicians and Surgeons, pointed out that the representation of the universities on the council of the province would be proportionately larger when those which did not now teach medicine would cease to be represented He also maintained that the final examination by the council was necessary in order to show that after his five years' tuition at the university the student was really efficient for practice He contended that there must be some common examination board before which the holder of the degree must go before being entitled to become a registered practitioner

GENERAL

Cancer Research—The ninth semiannual meeting of the American Association for Cancer Research will be held at the New Ebbitt Hotel Washington D C January 5 as a symposium on cancer research in conjunction with the Pan-American Scientific Congress

Personal.—Asst Surgeon-General Henry R Carter U S P H S., who has been ill with dengue in Porto Rico has returned home convalescent——Dr Rudolph Tuesler chief surgeon to St Luke s Hospital Tokyo Japan was the chief speaker at a dinner of the Church Club of the Episcopal Diocese of Michigan, at Detroit December 9

Coyotes Spread Rabies—Surg John S Boggess U S P H S, on December 20, was appointed executive officer to lead a campaign against rabies originating in coyotes and now said to be a menace to people and stock in California, Oregon, Nevada and Idaho——Thirty persons supposed to have contracted rabies by the bites of coyotes have recently been treated at the State Hygienic Laboratory, Reno, Nev

Organization of Indian Service Physicians—A general organization of the physicians of the United States Indian Medical Service is being perfected by several physicians of that service Because of inadequate compensation, insufficint authority in medical and sanitary matters, absence of reasonable expectation of promotion and coordinate organization, the physicians of this service, through its association, are planning an active campaign which will put the Indian Medical Service on a higher plane The organization will ask for a chief medical officer whose authority in matters pertaining to his office is supreme, organization to be based on that of the higher government services, increase in salary and rank, which will be determined by length of service and efficiency Former and active officers of the service are requested to correspond with the Temporary Secretary "Association of the U S Indian Medical Service" Shiprock N M, or the treasurer of the association at Crozier, N M

Bequests and Donations—The following bequests and donations have recently been announced

Delaware and Homeopathic hospitals Wilmington, Del, each $1 000 by the will of Sarah C Hagany Wilmington

Boston Dispensary, a gift of $5 000 to the endowment fund from Shepart Brooks

St Luke s Hospital Chicago, and Church Home for Aged Persons each $5 000 to endow a free bed to be known as the Alma L Kimball Bed by the will of Miss Louise Edsall Kimball

Maimonides Hospital, Chicago, an annual donation of $5 000 for maintenance of the hospital

Laconia (N H) Home for the Aged, $50 000 Laconia Hospital $10 000 Florence Crittenton Home Society $2 000 Boston Floating Hospital $1 000 by the will of Edward E Taylor Boston

St Christopher s Home for Babies Brooklyn $25 000 and also a trust fund of $125 000 on the death of certain beneficiaries

Hospital for Deformities and Joint Diseases New York City $1 000 and bequests of $500 or $250 to ten other charitable institutions of New York and Brooklyn by the will of Herman N Flurchheimer New York City

Hospital of the University of Pennsylvania Philadelphia $3 000 to endow a bed in the Children s Ward in memory of Mr G Lee Knight by the will of Helen T Knight

Seven charitable institutions of Philadelphia provisional bequests in the will of Martin H Stutzbach

Belgian Scholarship Committee—The Belgian Scholarship Committee has issued a circular letter of appeal for a fund to enable scholars, research workers literary men and artists of Belgium to resume their work It is proposed to give these worthy individuals assistance in England Holland France or wherever they may be but in a few cases it is proposed to have the workers brought to this country The committee has already received assurance from the George Washington University Clark University and the state universities of Missouri and Florida that they will give free tuition to Belgian students Belgian professors have also been temporarily engaged by Princeton George Washington Harvard and Yale universities and the University of Pennsylvania the University of Chicago, and the Baltimore branch of Carnegie Institute In one of these cases the honorarium has been partly paid by the committee The committee undertakes to centralize all information and to act as a clearing bureau between the educational institutions of the United States and the Belgian victims of the war The committee appeals especially to men interested in the development and diffusion of knowledge and art, and hopes that a liberal response will follow the appeal Checks should be drawn payable to the Belgian Scholarship Committee, John Joy Edson, treasurer, 309 Wilkins Building Washington, D C.

FOREIGN

French Academy of Sciences Awards Prize to Wright.—The Academie des Sciences awarded seven prizes of from $100 to $10 000 at its recent annual meeting The Le Conte prize the largest one was given to Sir Almroth Wright for his share in the introduction of systematic vaccination against typhoid The Lannelongue prize of $400 was divided between Mmes Cusco and Ruck.

Prizes Offered by the Buenos Aires Academy of Medicine—In commemoration of the centennial of the independence of Argentina 1816-1916 the Academia de Medicina offers three prizes of 1 500 pesos each for the best works on biologic sciences medicine or surgery received in competition from Argentine scientists It also offers a prize of 2 500 pesos for the best unpublished work on a medical subject presented at the Congress of Social Sciences which is to be held at Tucuman, Argentina, July 9, 1916 This prize is open to any American member of the congress

Deaths Abroad—F Tauszk privat-docent of internal medicine at the University of Budapest, editor and publisher of the journal *Tuberculosis*, and general secretary of the Hungarian organization of the public sanatoriums for pulmonary affections, aged 50——A Blin, professor at the University of Rennes, aged 63——U Rose, instructor in internal medicine at the University of Strassburg, aged 44——M Nussbaum, director of the biologic laboratory of the University of Bonn, aged 65——R Ulrich, formerly professor of ophthalmology at the University of Strassburg, aged 67——J Erismann, professor of hygiene at the University of Zurich, aged 73——P Baj, editor of the *Pensiero Medico* of Milan, aged 30

Typhus in Mexico—Reports from Mexico state that following the famine, typhus has broken out and that its fatalities are particularly heavy on account of the impoverishment of the people and the filth conditions prevalent It is reported at Pachuca that there are about seventy deaths a day and it is said that typhus is causing as many deaths as starvation in the suburbs of the city of Mexico Notices have recently been posted telling the public how to avoid typhus, but ignoring the principal cause of typhus, the body louse——A telegram from Washington, December 24 states that the United States Public Health Service has learned that typhus fever has crossed the Rio Grande in Texas Three cases have been found in Laredo where many Mexican refugees have gathered

WAR NOTES

Surgical Dressings Shipped—*The surgical dressings committee of the Zander Ward of the Peter Bent Brigham Hospital Boston, shipped seventeen cases of hospital supplies to the war zone last week*

New Ambulances—The Vacation War Relief Committee has cabled to Mrs Edith Wharton in Paris the $12 000 contributed by Mrs Daniel Guggenheim to equip five hospital motor cars for the use of the French army in Alsace

Frauds in Medical Supplies—A dealer in physicians' and hospital supplies was recently arrested at Milan for handling contraband drugs and for adulterating drugs The Serbian government was one of the complainants testifying that the goods supplied the Serbian army on a $40 000 order did not correspond in any way to the specifications

Hospital Mortality Lowered—Dr Jacques Bertillon, director *of medical statistics of the French* army in a special report, states that the mortality of the sick and wounded in hospital has been *for this year, only 18 to the 1 000* Last year the mortality was 53 to 1,000 and in peace time, the *Paris hospitals showed a mortality of 106 to 1,000*

The Siegfried League—With this name, a new society has been organized at Stuttgart, the members of which pledge themselves to abstain from intoxicating liquors as long as the war lasts The officers include Professors von Froriep and von Grutzner The name was chosen because the mythical Siegfried had only the one vulnerable spot where the dragon's blood had not touched him

Aid Asked for War Hospital—Dr James E Stowers, Millersburg, Mo, and Dr Ralph R. Fitch, Rochester, N Y, who are conducting at their own expense, a hospital at St Valery en Caux, Seine Inferieur, France, have appealed for help The American Red Cross withdrew from the hospital October 1 Drugs, hot-water bottles and hospital supplies are needed The hospital has a capacity of about 150

Exchange of Medical Prisoners of War—According to an agreement between the German and British governments, a number of German physicians and pharmacists taken prisoners by the British in southwestern Africa have been exchanged for a *corresponding* number of British medical men in German hands Seventeen German physicians with their families *from* Africa have thus reached Berlin by way of Rotterdam

Hospital Ships Reported Sunk—The steamer *Cambria*, formerly owned by the London and Northwestern Railway Company but recently transferred *to* the admiralty service as a hospital ship, is said to have been sunk in the English Channel, December *20——The British* hospital ship *Anglia* is reported by an Associated Press telegram to have been sunk by a mine in the English Channel, November 17 Three hundred men were saved out of a total of 385

Losses of the University of Berlin in the War—According to the *Klinische-therap Wochenschrift* of November 1, there have been twenty-seven victims of the war among the students in the medical department, 129 in the department of philosophy, thirty-one in theology and forty-eight in the law department Five of the members of the teaching force have also been victims, Professors Piper, Jochmann and Kramer, and the assistants at the physiologic and Pharmaceutic institutes Drs Frankfurther and Shaw

Recovery of Wounded Soldiers and Return to the Ranks—The *Munchener medizinische Wochenschrift* quotes a Russian daily to the effect that there is great complaint in Russia that only 18 per cent of the wounded soldiers recover sufficiently to return to the ranks, while the Germans report that 60 per cent are returned to the front The Russians regard this ratio of 60 to 18 as testifying to superior technical skill in treating the wounded Our exchange comments, "The German physician-surgeon and the German technician may prove to be the most powerful force which the Allies have to combat"

Financial Aid for Civilian Physicians Serving *in* the War—Collections and other schemes for ensuring pecuniary aid *to the families of the medical men who have gone to the* front are being inaugurated on an extensive scale in the countries of all the belligerents *The profession in* each country is struggling with the problem, and facing the *additional problem of support for the physicians* when they return home after the war until they regain their financial *footing The fund being raised by the* Vienna Medical Society for the purpose was started with the $400 recently received by E Pick as the Goldberger prize for his research on anaphylaxis

News of Relief Parties—Final arrangements are being made for the departure of a party of twelve physicians and nurses which is being sent to the aid of the suffering inhabitants of Montenegro More than 600,000 pounds of food supplies and medicine have been collected and already sent to Montenegro——The Harvard surgical unit left London, December 6 to begin its duties on the western war front——A second detachment of physicians and nurses sent for relief work in Germany and Austria by the American Physicians' Expeditions Committee, sailed for Europe, November 25 on the *Heilig Olav*——Miss Emma Duensing, head nurse of the first American medical relief expedition which was sent to Germany early in September, died from septicemia at Oppeln, Silesia, November 5

Aid for Belgian Physicians—The report of the treasurer *of the committee of American physicians for the aid of the* Belgian profession, for the week ended Dec. 25, 1915, lists *the following contributions*

Brooklyn Medical Society, Brooklyn, N Y		$ 25 00
Receipts for the week ending December 25		$ 25 00
Previously reported receipts		7,905 86
Total receipts		$7,930 86
Previously reported disbursements		
1,625 standard boxes of food at $2 20	$3,575 00	
1,274 standard boxes of food at 2 30	2,930 20	
353 standard boxes of food at 2 28	804 84	
Total disbursements		7,310 04
Balance		$ 620 82

F F Simpson M D, Treasurer,
5 Jenkins Arcade Bldg, Pittsburgh

Red Cross Activities—The American National Red Cross has transmitted to the secretary of the state, a petition asking that safe conduct of a shipment of milk, for babies in Germany and Austria-Hungary threatened by starvation by the shortage of milk in that country, be arranged with the allied powers, and that if such safe conduct be granted, the distribution of the milk shipped will be made by the Red Cross or in any other way that may be acceptable to the allies This petition was transmitted at the request of the Citizens' Committee for Food Shipments, a charitable organization with headquarters in New York City——The Austrian Red Cross has fitted out two volunteer relief and medical bodies for service in the Balkans One will take charge of the 500-bed hospital which has been established in the Gladstone Gymnasium School at Sofia and the other will be available for field work——During the first year of the war the American National Red Cross sent to Europe 671 medical men and 253 nurses for this work Of this body, 5 units were sent to France, 2 to Russia, 2 to Germany, 2 to Austria, 3 to Serbia and 2 to *Belgium*

BERLIN LETTER

Berlin, Nov 16, 1915

Personal

Prof Jakob Wolff, a practicing physician of Berlin, who made extensive historical researches on the subject of cancer, was awarded the Martin Brunner (Nuremberg) prize of 1,800 marks (about $430) This foundation was established about three years ago by Mr Brunner, an artist of Nuremberg He donated 50 000 marks (about $12,000), the interest of which was to be awarded as a prize annually to the person who contributed the best work on the etiology and treatment of cancer The present award is the first one to be made

Krupp Family Gives to Charity

The Krupp family of Essen has donated 50 million marks ($12,500,000) representing the increase in profits, the result of the war for civil betterment work Of this sum 21 million marks ($5,250,000) was to be set aside as a fund for the families of those killed in the war or of those severely injured Besides this, 4 million marks ($1 000,000) have been set aside to be used to help those suffering by and through the war, especially the inhabitants of the eastern marches, and the income from 25 million marks ($6,250 000) is to be applied especially to the officials and workmen of the Krupp factories

Prices of Food in Berlin

The manifesto issued by the government regulating the price and distribution of foods and food products appears to have created the impression that Germany is hungry or that such a state of affairs is imminent. How little truth there is in statements based on such belief is shown by consulting the price lists issued in Berlin, November 11 The considerable decrease in the price of foods shows conclusively not only that there is sufficient food on hand, but also that the higher prices prevailing previously were the result of the business methods of producers and dealers Finally we must appreciate the fact that the government regulation of food prices is of immense value to the people, inasmuch as foods are now being sold at their actual value and not at an inflated value created by individuals who are desirous of earning large profits The average price per hundred pounds of living calves fell from 94 marks ($23 50) to 77½ marks ($19 37) during the week of October 25-30 and November 1-6, for pigs the price fell from 145 marks ($36.25) to 102½ marks ($25 62), for one pound of butter it fell from 2 77 marks (69.25 cents) to 2 53 marks (63.25 cents)

The Law and "Christian Science"

In spite of the great interest commanded by the war situation, the law suit in Berlin against two female Christian Scientists has commanded a considerable share of public attention. These two women were charged with having contributed through negligence to the death of two well-known actresses, one of whom was suffering from diabetes and the other from mycosis fungoides Both patients were doing very well under medical care but, acting on the advice of relatives and friends, they turned to Christian Science, and while being treated by the two Christian Science practitioners mentioned above their condition became progressively and continuously worse until it was too late to render medical assistance After several days of discussion in the courts, the two women were sentenced to six months' imprisonment The basis for this sentence imposed by the judge will probably be of interest to the readers of The Journal. As was shown repeatedly during the course of the trial, "Christian Science' had its origin in America The cult claims a large number of followers, and our American colleagues therefore probably come in contact with "Christian Science" more often than we do over here The ruling of the court was as follows The court holds that this teaching, so far as it applies to treatment of disease in general, is a mistaken one (*Irrlehre*) Opposed to this belief is the testimony of witnesses who claim to have been healed from a variety of diseases The statements of these witnesses, however, are based not on facts but on opinions Further, these opinions are based on wrong conclusions or the conclusions are not interpreted correctly It must be admitted that under certain conditions this teaching and its promulgation is productive of favorable results but only in cases in which there is needed strengthening of energy or self-confidence as for instance, in the case of those who are suffering from imaginary ills in hypochondriasis nervousness, hysteria and similar mental states, perhaps, too in the early stages of organic lesions but not in the case of a severe organic lesion The question arises, therefore, whether the two defendants are directly responsible for the death of their patients by having shortened their term of life Expert opinion has shown that if these patients had remained under the care of physicians the first one could have lived for years, and the death of the second could have been postponed The question is Can a verdict be rendered against the defendants? It is the opinion of this court that the defendants are guilty of grave negligence because of having undertaken the treatment of such serious diseases when they were wholly ignorant of the subject from a medical standpoint Furthermore, they also committed a breach against the teachings of Christian Science which says that practitioners should withdraw from the treatment of any patients when it is evident that the disease is taking an unfavorable course and they are warned to observe closely whether the disease is growing worse. The testimony in these cases has shown that the condition of both patients had become so much worse that it was noted by other persons Therefore, the defendants surely should have noted it The rapidly increasing severity must have shown the defendants that death might take place if the patients remained in their care They were not asked to secure a physician but it was undoubtedly their duty to inform their patients that they were unable to do anything more for them, and further actions would depend on the patients themselves If this had been done, these patients would undoubtedly have sought medical advice and had such been secured, the patients although perhaps they might not have been cured would have had their lives prolonged The case, then, is one of involuntary homicide. With regard to the punishment there enter into consideration these circumstances that this is a form of treatment that is not based on any actual knowledge, that it is a treatment which has nothing in common with the German spirit, German ways and German feelings, it is based on an assumption and is not in unison with the justice of God and far removed from real Christianity as well as from science Furthermore, the victims were two highly gifted artists, favorites of the public and of the royal stage

PARIS LETTER

Paris, Dec 2, 1915

The War

AMERICAN AID IN THE EDUCATION OF WAR CRIPPLES

Under the presidency of Mr William D Sharp ambassador from the United States, a meeting of the American colony in Paris was recently held at the American chamber of commerce Mr G J Shoninger president of the Union des colonies etrangeres en France en faveur des victimes de la guerre explained the purpose of the society and requested the aid of Americans in the work of giving practical instruction to crippled soldiers so as to enable them to earn their living The amount required to supply the needs of a crippled soldier during the necessary period of apprenticeship is about 500 francs ($100) From subscriptions already received, the society is now able to count on an annual revenue of 30 000 francs ($6,000)

The meeting unanimously voted for the formation of an auxiliary American committee to collect funds It was decided, moreover that the society would endeavor to cooperate closely with the governmental authorities and the other societies in France to coordinate all efforts for this purpose

IMMEDIATE TREATMENT OF PATIENTS SUFFERING FROM CHLORIN GAS POISONING

At a recent session of the Societe medicale des Hopitaux de Paris, Dr G Lion physician of the hospitals who witnessed a German attack with chlorin gas October 19 read an interesting paper on this subject He emphasized particularly the predominance of acute pulmonary edema among the serious immediate results He laid stress on the necessity in certain cases of bleeding the patient immediately The first sensation experienced is a strong odor of chlorin then a pricking of the eyes the nose the pharynx and larynx, then a more or less painful cough oppression and some palpitation In the lighter cases these are all the manifestations In the medium cases there are signs of bronchitis and some zones of fine rales In serious cases cyanosis dyspnea and abundant frothy, yellowish expectoration indicate acute pulmonary edema In certain cases a soldier at first affected by gas feels capable of going back on duty but in the evening all at once he presents serious pulmonary edema In the medium cases the soldier should be immediately taken to the ambulance, if possible Moreover, there is little to be done to prevent serious complications (injection of milk or of hot water to produce vomiting, the use of ipecac is disputable and is to be reserved for patients not too greatly depressed) When serious conditions are presented early, bleeding is indicated to counteract a marked degree of pulmonary edema Lion found bleeding easy, the blood spurting out in a jet, but he thinks that if bleeding is too much delayed it may become impossible Bleeding will obviate, at least for a certain time, the danger of death from acute asphyxia Lion advises, moreover, injections of ethero-camphorated oil and of oxygen but not injections of morphin He concludes that, in spite of all efforts, therapeutics will often be powerless and that prophylactic means cannot be too greatly perfected

FROZEN FEET IN THE WAR

At a recent session of the Sociéte de medecine de Paris, Dr Leon Salignat spoke of the symptomatology, etiology, pathogenesis and treatment of frozen feet, which are particularly frequent in the present war He emphasized especially circulatory and trophic disturbances From results that he has obtained in his service Salignat recommends treatment by local vapor bath He believes that it would be easy and not expensive to construct a movable apparatus for vapor baths The treatment begun in the hospitals at the front should be completed, at the end of four or five days, in the base hospitals This would make it possible to avoid amputations and to send back speedily to the armies many men completely restored to strength

SOLDIERS' BEDS IN TRENCHES

This subject was recently discussed by the Societe de medecine de Paris Dr Klotz remarked that the straw which is used for the soldiers' beds is rarely renewed He suggested giving the men hammocks like those of sailors Dr Butte agreed with Dr Klotz, he has observed a case of syphilis which could be explained only by infection of this kind Dr Berillon thought it would be practical to replace the hay by turf, which is antiseptic, inexpensive and easy to obtain

MEASURES FOR THE AID OF TUBERCULOUS SOLDIERS

A law has just been promulgated which gives the minister of the interior a fund of 2 000 000 francs ($400 000) for assistance during the war for soldiers dismissed for tuberculosis The municipal council of Paris has just voted 60 000 francs ($15,000) for hospital care for tuberculous soldiers

Death of Dr Millard

Dr A Millard, former physician of the hospitals of Paris, has just died aged 85 He was the oldest of the physicians of the hospitals of Paris, and had instructed pupils among whom he had the good fortune of counting twenty physicians of the hospitals and professors He gave his name to the sign of alternate hemiplegia (syndrome of Millard-Gubler) For nine years he had represented his colleagues on the advisory board of the Assistance publique of Paris

The Moxon Gold Medal Awarded to Professor Dejerine

The Royal College of Physicians of London has awarded the Moxon gold medal to Dr Dejerine, professor of the clinic of the diseases of the nervous system at the Faculte de medecine de Paris This medal is awarded every three years to the scientist whose observations and researches in clinical medicine are deemed to render him most worthy of this distinction The award of the medal is not reserved for scientists of British nationality, but up to the present it has been given only to English clinicians Sir Alfred Garrod (1891), Sir William Jenner (1894), Sir Samuel Wilkes (1897), William Tennant Gairdner (1900), John Hughlings Jackson (1903), Jonathan Hutchinson (1906), Sir William Richard Garvers (1909), Sir William David Ferrier (1912)

Operating by Red Light in Connection with Roentgenoscopy

At a recent session of the Academie des sciences, Dr J Bergonié, professor of biologic physics and of the clinic or medical electricity at the Faculte de medecine de Bordeaux, explained a new method which, after repeated trials, appears to meet the needs of surgical roentgenoscopy (in the removal of foreign bodies), while not interfering with the work of the operator and his assistants The operation is performed in a darkened room The operative field is lighted up by intense saturated red light coming from a source analyzed by the spectroscope and giving neither green nor yellow rays Not only do the surgeon and his assistants operate easily in this light but also their visual sensibility is conserved or augmented during the operation The colors of the radiations emitted by the fluorescent screen played on by the Roentgen rays are green and yellow, and the green roentgenoscopic images afford a sharp contrast to the red light Thus when the red light is turned off and the Roentgen rays below the operative field substituted for it, the images on the screen are immediately and clearly perceived by all As soon as the indications furnished by this momentary roentgenoscopy have been thoroughly observed, discussed by the assistants, if this is necessary, the screen protected by sterile tissue is removed from the operative field and the operation continues by red light Thus by successive alternations of brief roentgenoscopies and operation by red light, roentgenoscopy guides the surgeon and his assistants whenever they need it, their hands being easily kept outside of the Roentgen-ray field and the active part of the operation being performed by red light altogether It is to be noted that by monochromatic red light tincture of iodin is almost colorless arterial blood is slightly tinted, venous blood is quite different and the slightest beginning of asphyxia in anesthesia is evidenced by an almost black coloration

LONDON LETTER

London, Dec. 10, 1915

Death of Dr Millican

I regret to announce the death at the age of 62 of Dr Kenneth William Millican, B.A (Cantab), M R C S, L R C P, assistant editor of the *Lancet*, and formerly assistant editor of The Journal He was born at Leicester and graduated with honors in the classical tripos at Cambridge He was appointed laryngologist at the Infirmary for Consumption and the West End Hospital for Paralysis He wrote an essay on the development and evolution of morbid germs in which he anticipated on theoretical grounds many of the views subsequently held by bacteriologists In 1892 he left London and became in succession a ship surgeon and medical officer to mining works in Mexico and California In 1897 he became associate editor of the *New York Medical Journal,* and six years later editor of the *St Louis Medical Review* He next joined the staff of The Journal In 1911 he returned to England on being appointed subeditor of the London *Lancet* He was a man of a modest and ingenuous disposition, most genial and courteous, but outspoken in denunciation of what he conceived to be wrong His loss will no doubt be as much regretted by his wide circle of American friends as it is on this side of the Atlantic

The Mortality of Childbirth

A report on the mortality of childbirth has just been published by Dr A Newsholme, medical officer of the Local Government Board He shows that in some parts of the country this is still excessive The majority of the deaths are due to puerperal fever, hemorrhage or convulsions The death rate of mothers in the last four years from complications of pregnancy and childbirth amounted to 4 per thousand births—one third of which were due to puerperal infection The mortality from conditions other than puerperal fever is much higher in the provinces than in London, probably because of the much greater accessibility of skilled assistance in the latter On the other hand, the records of London with regard to puerperal fever are no better than those of the provinces A substantial reduction in puerperal mortality has been secured in the present generation The rate is now 30 per cent lower than in 1871 It is far from satisfactory, however, that in 1914 one mother out of every 644 lost her life from puerperal fever The mortality from childbirth is higher in Wales than in England (5 75 against 4), but in certain parts of England, textile towns in particular, the mortality is still higher than in Wales This difference is attributed to a lower standard of cleanliness of midwives or other women who assist the mother The lowest mortality prevails in London and the south of England, where it is 3 per thousand births

Shortage of Dental Practitioners

The institution of a diploma in dental surgery took place comparatively recently in this country The result is that the number of qualified dentists is far short of the requirements of the population, and that a large number of unqualified men practice They are not prevented from doing this, but they must not call themselves dentists This is a very small drawback as they can exhibit sets of teeth and call themselves "tooth specialists" At a meeting of the General Medical Council, Mr Tomes, chairman of the Dental Education and Examination Committee, submitted a report on the shortage of dentists Communications had been made with the various licensing bodies for the possibility or curtailment of the curriculum without lowering the standard of dental practice Some of the bodies questioned the existence of any shortage, pointing out that many qualified men are not fully occupied, the public being unconvinced of their advantage over the unqualified Attention was also drawn to the lowering of the social status which arose from the intrusion of great numbers of unqualified persons, and to the fact that business men who had acquainted themselves with the existing state of things often considered that from a business point of view qualification was worthless or even a hindrance, and so did not put their sons at dental schools The Incorporated Dental Hospital of Ireland alone considered the possibility that the simpler dental requirements sought by the poorer classes might perhaps be met by a lower grade of practitioner, though this was also suggested in one of several letters sent by private practitioners The main conclusion was that no appreciable increase in the members of the dental profession can be looked for until the law gives further protection to the qualified man against the unqualified A very insidious form of deception was pointed out An unqualified man dare not put on his plate 'dental surgeon,' as this would render him liable to prosecution This is avoided by putting beneath his name 'dental surgery," which can be done with impunity

Mortality from Measles Doubled

The Local Government Board issued an order applying throughout England and Wales a system of notification of measles and German measles, and enabling local authorities to undertake measures for the care of patients suffering from these diseases It is hoped that health officers, as soon as this order comes into operation, will keep the local military authorities advised of cases of measles in their districts in the same way as is now done in regard to other notifiable infectious diseases During the present year there has been a large increase in the mortality from measles The average number of deaths occurring annually from this disease in recent years in England and Wales is 11 000 of which the great majority are deaths of children under 5 years of age. During the first half of the present year the number of deaths reached a total of 12 414 Representations have also been made by the Army Council that measles has caused a large amount of disablement among the troops in this country, and that accurate information of the presence of the disease among the civil population would be of the utmost benefit to the military authorities

Latin Not Necessary for Medical Degree

At the annual meeting of the court of governors of Sheffield University it was agreed, in view of the great demand for physicians to give effect at once to a resolution that a knowledge of Latin should be no longer required as a condition of admission to the medical faculty A new ordinance was agreed to, giving the senate power to waive the examination for the bachelor's degree in any faculty other than that of medicine in the case of any student whose studies had been interrupted by war service

---

Marriages

William Spencer Harvey M D., Chicago, to Mrs Allie McHenry Cartwright of Nashville, Tenn, at San Francisco December 11

Edward Franklin Younger, M D., Lynchburg, Va., to Miss Florence Tait Walmer of Bluffton Ind., December 8

James Jay Tyler, M D., Warren, Ohio to Miss Ruth Marguerite Meals of Oil City, Pa December 8

George B Breedlove, M D, Martinsville, Ind, to Mrs Callie M Mitchell at Indianapolis, December 8

Claude Meek Poff, M D., to Miss Christine Holly Stoltzfus both of Tuleta Texas, December 8

Otto J Yelt, M D., Toulouse, France, to Mdlle Rita Gay at Rouen, France, November 9

Deaths

Martin L Belser, M D University of Michigan, Ann Arbor, 1891, aged 46, formerly a Fellow of the American Medical Association, a member of the Michigan State Medical Society, a veteran of the Spanish-American War, in which he served as lieutenant in the Thirty-First Michigan Volunteer Infantry, for five years major and surgeon in the Michigan National Guard, and from 1891 to 1895 an instructor in his alma mater, a well-known practitioner of Ann Arbor, Mich, died in Hickory, N C, December 15

Henry Clay Fairbrother, M D Washington University St Louis 1872, aged 70, a Fellow of the American Medical Association, a veteran of the Civil War, originator of the East St. Louis park system, a director of the Illinois State Bank, surgeon to many of the railways centering in East St Louis, for several terms a member and president of the local school board, died at his home, December 15, from heart disease

Mary Hawes, M D Laura Memorial Women's Medical College, Cincinnati, 1899, aged 50, formerly a Fellow of the American Medical Association, lecturer on histology and embryology and assistant in gynecology in the Denver and Gross College of Medicine Denver, physician in charge of the Florence Crittenton Home, assistant in gynecology at St Anthony's Hospital, Denver, died at her home in Denver, December 8

Charles Henry Bushnell, M D Bennett Medical College, Chicago, 1896, aged 55, a Fellow of the American Medical Association, president of the Illinois State Eclectic Medical Society in 1909, attending obstetrician to Cook County Hospital, attending gynecologist to Lake View Hospital and attending surgeon to the Chicago Union Hospital, died at his home in Chicago, December 19, from heart disease

Charles Alfred Haffner, M D College of Physicians and Surgeons in the City of New York, 1896, aged 40, a member of the Medical Society of the State of New York, attending physician to the Roosevelt Dispensary and Bloomingdale Clinic, New York, died at his home in New York City, December 14, from pneumonia following an operation for appendicitis

Hubbard Kavanaugh Hinde, M D Washington University, St Louis, 1857, aged 81, for twenty-four years a member of the staff and superintendent of the Fulton State Hospital a veteran of the Civil War, well known as an educator and president of Howard-Payne College Fayette, Mo, died at the home of his daughter, in Fulton, Mo, December 10, from pneumonia

Herman Peter Gerbert, M D College of Physicians and Surgeons in the City of New York, 1883, aged 57, ex-president of the Orange Mountain (N J) Medical Society, city physician of Orange from 1905 to 1908, president of the Orange Memorial Hospital Dispensary; was found dead from heart disease in his apartment in Orange, December 19

Charles Marcus Compton, M D Northwestern Medical College, St Joseph, Mo, 1893, aged 55, formerly a Fellow of the American Medical Society, a member of the Oklahoma State Medical Association, a physician in the United States Indian Service, was found dead from heart disease at his home in Coyle, Okla, November 8

Henry Francis Dunlavy, M D Missouri Medical College, St Louis, 1871, aged 70, formerly a Fellow of the American Medical Association, a member of the Iowa State Medical Society and once president of the Taylor County (Iowa) Medical Society, a veteran of the Civil War, died at his home in Bedford, Iowa, December 3

George William Peck, M D Rush Medical College, 1890, aged 74, formerly a Fellow of the American Medical Association, a member of the Medical Society of the State of California, a practitioner of California for half a century and a veteran of the Civil War, died at his home in Sawtelle Calif, December 14

John Hamilton Kemp, M D University of Pennsylvania Philadelphia 1900 aged 36 a Fellow of the American Medical Association and assistant at the Medical Dispensary of Howard Hospital Philadelphia died at the home of his sister in Philadelphia, December 14, from disease of the kidney

Christopher Algernon Harvey-Sparks, M D Meharry Medical College, Nashville Tenn 1910, aged 32, was instantly killed in an explosion of gasoline which devastated the city of Ardmour Okla., September 27

George I Mays, M D Marion-Sims College of Medicine, St Louis, 1899, aged 47, of Joplin, Mo, city physician from 1902 to 1904, also a member of the board of public works, died in St John's Hospital, Joplin, December 10, from pneumonia, following an operation for the removal of gallstones

Henry S Metcalf, M D Northwestern University Medical School, 1886, aged 62, formerly a Fellow of the American Medical Association, a member of the Illinois State Medical Society, died at his home in Mount Carroll, Ill, December 15, from septicemia due to an operation wound

Frank Holly Stuart, M D Kentucky School of Medicine, Louisville, 1887, aged 67, for many years a member of the surgical staff of the Northern Pacific and division surgeon to the Great Northern Railroad, died at his home in Baudette, Minn, December 7, from heart disease

Robert Ansley, M D Rush Medical College, 1902, aged 43, a Fellow of the American Medical Association, and a veteran of the Spanish-American War, at one time health officer of Indiana Harbor, died at his home in Indiana Harbor, December 15, from hemorrhage of the stomach

Robert Bruce House, M D Homeopathic Hospital College, Cleveland, 1869, aged 69, a member of the staff of the City Hospital, Springfield, Ohio, for many years a member of the local board of health, died at his home in Springfield, December 11, from ptomain poisoning

Walter Ernest Seymour, M D University of Pennsylvania, Philadelphia, 1898, aged 40, formerly a member of the Rhode Island Medical Society, of Riverside, R I, died at his home in East Providence, R I, December 6, following an operation for appendicitis

Charles J Frazier, M D Albany (N Y) Medical College, 1873, aged 65, a member of the Medical Society of the State of New York, health officer of Cobleskill and coroner of Scoharie County, died at his home in Cobleskill, October 21, from pneumonia

Matthias Riser Perry, M D Jefferson Medical College, 1866, aged 72, for many years a practitioner of Russellville, Ky, but for two years a resident of Southport, Ky, died at the home of his son in that place, December 4, from cerebral hemorrhage

David A Cox, M D Medical College of Ohio, Cincinnati, 1890, aged 50, formerly a Fellow of the American Medical Association, secretary of the Board of Health of Howell, Ind, died at his home in Howell, December 17, from septicemia

Leonard L Knapp, M D University of Michigan, Ann Arbor, 1883, aged 64, formerly a member of the State Medical Society of Wisconsin, died in St Luke's Hospital, St Paul, December 14, from pneumonia complicating typhoid fever

John Harold Hay, M D University of Michigan, Ann Arbor, 1913, aged 27, resident pathologist at St Francis' Hospital, Pittsburgh, died at St Francis' Hospital, December 2, from complications following an operation for duodenal ulcer

O S Ewing, M D Gate City Medical College, Texarkana, Texas, 1907, aged 40, a member of the State Medical Association of Texas, for two terms health officer of Fannin County, died at his home in Leonard, Texas, December 11

John N Taylor, M D Missouri Medical College, St Louis, 1878, aged 66, founder of the Boys of Woodcraft and a well-known practitioner and druggist of Jacksonville, Fla, died at his home in that city, December 11

William Epaphroditus Thomas, M D College of Physicians and Surgeons in the City of New York, 1895, aged 52, of Brooklyn, died in the German Hospital in that city, December 14, from pneumonia

A. M Parsons (license, West Virginia, 1899), aged 49, of Branchland, W Va, who is said to have shot a neighbor on October 3, was shot from ambush and instantly killed by the neighbor's son an hour later

Benjamin F Hart, M D University of Louisville, Ky, 1852, aged 85, formerly of Sweet Springs, Mo, died at the home of his daughter in Seattle, December 9, from cerebral hemorrhage

Ellen C Brensinger, M D Woman's Medical College of Pennsylvania, Philadelphia, 1885, aged 69, of Philadelphia, died suddenly, December 5, while in church, from heart disease

James H Wright (license, New Je sey), died at his home in Newark, N J., October 17

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

PROTONUCLEIN AND PROTONUCLEIN BETA

Report of the Council on Pharmacy and Chemistry

The Council has adopted the following report and authorized its publication W A Puckner, Secretary

Protonuclein, with other products of Reed and Carnrick, was examined by the Council in 1907 and found ineligible for admission to New and Nonofficial Remedies According to the patent specifications, it is prepared "from the thyroid and thymus glands, brain (pineal glands and pituitary body), bone-marrow, pancreas, spleen, liver, salivary glands, Brunner's glands, Lieberkuhn's follicles and peptic glands" These various glandular bodies, it is said, are dried at a temperature below 130 F (preferably between 100 and 110), the fat is removed by ether, the dried glands disintegrated, the connective tissue removed by sifting and the resulting powder coated with an ether solution of benzoin and mixed with milk sugar The dose is three to ten tablets (9 to 30 grains) daily

Protonuclein Beta is said to be produced by the addition to Protonuclein of an equal amount of [illegible] protoplasm and protoplasm of the spleen The dose is from two cubes (each 5 grains) three times a day to three cubes four times a day (30 to 60 grains daily)

Special advantages over ordinary nuclein are attributed to Protonuclein, in which, it is claimed, certain unaltered cells remain that are more easily assimilated by the leukocytes than are ordinary proteins, thus leading to a multiplication of cells In the early advertising Protonuclein was claimed to be

> " an exact physiological product derived from the lymphoid structures of the body without the use of chemical agents So delicate is Protonuclein that any chemical agent is liable to disturb its cellular activity "

After its examination of the product in 1907 (The Journal, Oct 5, 1907, p 1198), the Council concluded that any distinction between the action of Protonuclein and that of ordinary nuclein was purely speculative and highly improbable "If the active ingredients are really so unstable that they are destroyed by all chemical agents, as claimed, it seems impossible that the activity would be preserved when Protonuclein is given by mouth and therefore subjected to the very profound changes of digestion"

At that time the importance of thyroid as an ingredient had not been emphasized The following year, however, Hunt and Seidell (The Journal A. M A, Oct 24, 1908) reported the results of an investigation which showed that Protonuclein was a diluted thyroid preparation, as skilfully disguised as in the antifats Rengo and Marmola Hunt later pointed out (The Journal, Feb 1, 1913, p 384) that the amount of nuclein contained in a dose of Protonuclein probably would not have the slightest effect, especially when given by mouth

The following are extracts from the Protonuclein advertising matter

> "For cancer, infectious fevers (measles, scarlet fever, typhoid and septicaemia) and as a prophylactic"
> "Protonuclein An ideal prophylactic for all infectious Diseases"
> 'A true alterative and tissue builder"
> 'The value of Protonuclein depends upon its ability to increase cell power and promote tissue strength *It is therefore needed* whenever the organism is below the normal standard, more especially in Anaemia, Typhoid, Neoplasms and as a Prophylactic."

All the foregoing claims and recommendations are supposed to be based on certain alleged discoveries which the Council has previously characterized as "a tissue of vague speculations in direct conflict with the known facts of physiologic chemistry" As for the third claim, Hunt and Seidell have commented on the danger of recommending thyroid, the most powerful tissue-destroying drug known, as a "tissue builder"

Protonuclein Beta, it is said

> " .. combines the reconstructive action of Protonuclein with the action of the vital principle of the spleen making it a distinct product for use in all tubercular troubles, including phthisis, localized joint affections and scrofular conditions"

This product, according to the manufacturers, is based on the work of a certain Dr Bayle of Cannes, France Dr Bayle said that he had treated tuberculous patients with fresh ground up spleen of hogs (25-100 grams per day), mixed with fruit preserve or bouillon, in cases in which this brought on gastro-intestinal disorders, extract of the spleen pulp was administered hypodermically Bayle reported extraordinary improvements in the physical and mental conditions of his patients even after a few days of this treatment, over 90 per cent of his tuberculous patients, according to him, improved or were cured This applied to all types and stages of tuberculosis in man "With the spleen pulp treatment tuberculous glands disappear like syphilis lesions on administration of mercury and iodids"

This "spleen specific" of Bayle lacks scientific foundation, Bayle's own cases were not adequately controlled, and no notice has been taken of Bayle's report by experts on tuberculosis Hence it practically lacks both confirmation and contradiction

The spleen is invaded by tubercle bacilli quite as frequently as are the kidneys and the liver, it has no special toxic action on these bacilli Nor is there any reason to believe that the end products of gastric and intestinal digestion of spleen pulp, after absorption into the blood, exert such toxic action It cannot be assumed that these end products indirectly aid the healing processes through improved metabolism, for there is no evidence that they have any specific nutritive or stimulating action after such absorption Altogether, what we know of the physiology and pathology of the spleen does not warrant us in looking for a "specific" against tuberculosis in this organ

If, however, the known facts did justify any hope that the spleen might furnish such a specific, manufacturers would not be warranted in exploiting or physicians in prescribing spleen products as a remedy for tuberculosis until control experiments on animals had confirmed the therapeutic value of these products In a chronic disease like tuberculosis, no conclusions that are scientifically valid can be drawn from clinical cases until many cases have been observed for years under suitable conditions Right here it may be said that the clinical "evidence" offered in favor of Protonuclein Beta is worthless The observations which have been reported on this product are not such as to permit any valid final conclusions to be drawn with regard to its value.

The rational method of proving the worth of an alleged new specific such as this is by animal experimentation. So far as we know neither Dr Bayle nor the Reed and Carnrick company has performed any such experiments with 'spleen pulp" or Protonuclein Beta, nor are we aware that any competent investigator has done so There is, to the best of our knowledge no scientific evidence on which to base the claims for Protonuclein Beta

The Council reaffirms its former action with regard to Protonuclein. The objections made to Protonuclein apply with equal force to Protonuclein Beta In view of the lack of evidence, the claims for Protonuclein Beta are unwarranted and the product is ineligible to N N R. on account of noncompliance with Rules 1, 6 and 8

Marriage Among Defectives.—Marriages of people of different social rank, even of one who is rich with one who cannot bring a sufficient sum of money to the joint exchequer, are daily prohibited, and the world approves such caution Yet we look on complacently to see a man or woman mated with one coming from a stock unsound to the core, and we have not the courage to cry out at such inhumanity toward their offspring—E M Sandwith, *Clinical Jour*, Sept. 1, 1915

Correspondence

"Practical" Medical Publications

To the Editor—From the standpoint of the general practitioner, it is regrettable that there are physicians in practice who do not regularly receive and read THE JOURNAL It is the one periodical publication which seems absolutely indispensable, the one which keeps a man abreast of the times

It is still more regrettable that there are so many of those publications which some practitioners call "practical," and which no one of reasonable understanding can read without disgust For instance, let me quote one or two items from the December, 1915, number of a medical publication which purports to cost one dollar a year, but somehow comes indefinitely once the publisher obtains your address, and never appears to require a payment on subscription These quotations are from the bona fide reading matter, if we may so call it, and not from the advertising or fake reading notice pages

On the cover appears this gem

> Dr ———, of ———, writes —I cannot get along without the ———

From an editorial article on the treatment of pneumonia

> Carbonate of ammonia (sic) was at one time supposed to exert a liquefying effect upon the blood It is also a useful stimulant and quick in action The room should also be saturated with the fumes of ammonia, which seem to soften the air and make breathing easier

Think of it—an editorial in a medical journal! Further the article suggests that it is well to

> Keep the patient in a prone position with his head not too high.

In other words, make him bite his pillow!

Then there is a little item credited to Sajous, as follows

Nasal polypi can sometimes be destroyed by

℞ Acid carbol	miii
Aquae	1 ounce

M Sig Inject a few drops into substance of polypus

The idea, evidently, being to save wire and make the patient realize the seriousness of his affliction

On another page we discover this therapeutic gem

FOR RIGIDITY OF PERINEUM

℞ Chloroform	2 parts
Ether	1 part
Eau de cologne	1 part

M Sig For external use

It would be instructive, and perhaps also amusing, to have a seat in the grandstand and watch the remarkable effects of such counterirritation on the victim of the rigid perineum

These very "practical" medical publications which give the doctor so much more for his money than he can extract from reputable journals are always interesting, even if they tend to make one ashamed of his profession Indeed, they vie with Medical Pickwick as a source of humor And the fact that they keep coming, month after month, year after year, no matter how long you neglect to send your dollar, puts them above reproach They are not out after subscribers alone They must have some other goal in view

But b t a i *m*, aren't they practical?

WILLIAM BRADY, M D, Elmira, N Y

Nitrous Oxid Versus Ether

To the Editor—It is often necessary to make allowance for the enthusiasm (often exaggeration) of nitrous oxid anesthetists While the description of the manufacture of 'gas" is interesting, the claims made by Dr A R. Warner in THE JOURNAL, Dec 4, 1915, are decidedly overdrawn

It is true that gas will *usually* anesthetize a patient more quickly than ether, but once in six or ten times the addition or substitution of the latter is necessary

The "familiar scenes of delirium with orderlies holding the struggling patient," etc., are decidedly unfamiliar in Akron and other cities of the United States and Canada in which I have witnessed and administered anesthetics If they be common occurrences in Cleveland, the Lakeside Hospital is in sore need of competent anesthetists In Akron we find one nurse sufficient while we administer the anesthetic In my own practice, giving several anesthesias daily, only rarely have I required more than one nurse, and equally rarely does she do more than stand beside the patient An orderly present is even more rare The only preliminary hypodermic is morphin $\frac{1}{6}$ grain, atropin $\frac{1}{150}$ and often none at all Only twice during the present year were several assistants required to hold the patient, in each case the patient was a hysterical woman who fought as soon as she entered the anesthetic room and before any anesthetic had been given

During my practice I have witnessed only two cases of "vomiting in the halls" and one in the elevator If it occurs frequently in Lakeside Hospital, I repeat that institution requires competent anesthetists My experience as described is the same as that of the other Akron anesthetists

Any anesthetic has had and will always have its good and bad features In endeavoring to create favor for gas and the opposite for ether, Dr Warner has gone to extremes We shall continue to use ether satisfactorily

Finally, ether when properly given will not cause vomiting in from 70 to 80 per cent of cases, a percentage in every way the equal of that of gas if the truth were admitted and not concealed A S McCormick, M D, Akron, Ohio

Classification of Pneumonia Cases

To the Editor —In The Journal, Nov 20, 1915, Dr J G Cross gives an analysis of pneumonia cases, but does not mention where he received the scheme for classification While senior intern at the Minneapolis City Hospital, Dr Cross suggested to me that I work up an outline for division of cases in a sort of table form With the aid of my junior, Dr Sig Engh, we worked up a table, and Dr Cross made use of this and never even mentioned either Dr Engh or myself

Harry A Salzman, M D, Chicago

[A proof of the preceding was sent to Dr Cross, who replies]

To the Editor —I am glad to supply the omission to which Dr Salzman has called attention In preparing the analysis of cases of pneumonia, which appeared in The Journal, November 20, I received a great deal of help from my assistant, Dr Stanley J Seeger, and my secretary, Miss Hazel Packard, as well as from the interns at the Minneapolis City Hospital

As to the table for classifying these cases, it can hardly be claimed that it is original with any of us, and I am sure Dr Salzman would not wish to be so understood During Dr Salzman's service he kept records of twelve cases of lobar pneumonia, according to this table, which was the product of the ideas on the subject of the staff and interns on my service at that time

I am very glad to acknowledge the part that Dr Salzman and Dr Engh had in this work

J G Cross, M D, Minneapolis

Death Certificates by Unlicensed Healers

To the Editor —In Queries and Minor Notes (The Journal, Dec 4, 1915, p 2026), in your answer to "J W R," you say "Christian Scientists are regarded as practicing medicine when treating for pay, and hence would be considered as physicians and as authorized to sign death certificates as such" You then quote the case of *Bandel* v *Health Department*, 193 N Y 133, N E 1067 I have no doubt that you base this statement on Chapter 120 of the Acts of the General Assembly of Maryland of 1908, entitled "An Act to Repeal Section 101, Article 43 of the Code of Public General Laws title 'Health,' etc," which defines specifically certain acts which will be considered, by law, practice of medicine This act was drafted to prevent the practice of Christian Science, osteopathy, optometry or any other practice or cult which was not at that time properly regulated by legislation If any person practiced a healing art and accepted a fee he was under the provisions of this act made a practitioner of medicine, which made it necessary for him to procure a proper certificate from the State Board of Medical Examiners, certifying to the fact that he had successfully passed the examination prescribed by that board or subjected him to the fines and penalties of the medical practice act for practicing without proper license

So far as this law conveys authority to Christian Scientists to sign certificates of death, it also conveys equal authority to each and every other citizen in the state to sign certificates of death if he meets the requirements of the medical practitioner as prescribed by the other sections under the same title, that is, proper licensure and registration

As a matter of fact, no certificate of death has ever been accepted in this state signed by a Christian Scientist This act prohibits the recognition of the practice of Christian Scientists as such, and makes it an unlawful deed to practice Christian Science for pay

We have in this state a law recognizing the practice of osteopathy, but only to a limited extent, and in that law there is a provision making osteopaths liable for the observance of all laws and regulations of the State Board of Health relating to infectious diseases and sanitation, and in this section there is another provision prohibiting the execution of a certificate of death by a practitioner of osteopathy See Sections 130 and 301 of inclosed code of laws

Frederic V Beitler, Baltimore,
Chief, Bureau of Vital Statistics, Maryland Department of Health

To the Editor —In Queries and Minor Notes (The Journal, Dec. 4, 1915, p 2026), among the answers, I find the following

> For example, in Maryland, Christian Scientists are regarded as practicing medicine when treating for pay, and hence would be considered as physicians and as authorized to sign death certificates as such

You are evidently in error in regard to the Maryland law in reference to Christian Scientists In 1908 the definition of what constitutes the practice of medicine was made much broader with a special view to including Christian Scientists This amendment was made at the instance of two active anti-Christian Scientists, one a druggist and one a newspaper man, each of whom happened to have wives of that faith, and each of whom had had distressing personal experience with Christian Science practice

If you care to look up the definition of the practice of medicine in Maryland you will find it in Section 101, page 641, of the Fourth Edition of the A. M A Directory

We have a good many Christian Scientists in Maryland and they do practice, but unlawfully, and no death certificate from one could be accepted

Herbert Harlan, M D, Baltimore
President, Board of Medical Examiners of Maryland

Pancreatin in Exophthalmic Goiter

To the Editor —In connection with the recent demonstration of quite a uniform hyperglycemia in exophthalmic goiter, and the communication of Dr O'Day (The Journal, Dec 18, 1915, p 2185), it is noteworthy that in two of my cases there was a complete cessation of exophthalmic symptoms with recession of goiter on rectal administration of pancreatin (dosage about 15 to 20 grains two or three times a day) This occurred in a series of cases of diabetes mellitus *Max B Leviton, M D, Chicago*

Measles Not Inevitable—It is entirely profitless and aside from the question to argue that children will have measles anyway, and that it is better for them to have it early in life and get it over with This is a most pernicious doctrine, which could have been applied with equal force to any of the more serious contagious diseases, such as diphtheria or smallpox or typhoid, before we learned how to control them Measles is at present a sufficiently important cause of death to warrant strenuous measures for its control—Harold Farnsworth Gray, *Jour Infect Dis*, November, 1915

Queries and Minor Notes

Anonymous Communications and queries on postal cards will not be noticed Every letter must contain the writer's name and address, but these will be omitted, on request

DIPHTHERIA AMONG SCHOOLCHILDREN

To the Editor:—What is the most approved method of dealing with a diphtheritic in school? Is it necessary to close the school or will an ordinary quarantine answer the purpose?

C. J March, M D, Fordyce, Ark
County Health Officer

Answer.—There is no doubt that the school is often an important factor in the spread of diphtheria This is frequently due to the occurrence among the schoolchildren of carriers of diphtheria bacilli Closing the schools is now generally regarded as a less effective means of combating the spread of infection than the detection and isolation of the diphtheria carriers In case of a diphtheria outbreak, the throat and nose of pupils, teachers and others in the school known to have been in contact with the infected children should be examined The examination should consist in inspection for "sore throat," and also in taking cultures from the nose and throat Those with a "sore throat" should be at once isolated and not be permitted to attend school until proved by bacteriologic examination to be free from diphtheria bacilli Proved carriers, with or without sore throat, should be isolated until two successive negative tests are obtained In a number of instances, measures of this character have been more effective in checking diphtheria outbreaks in schools than a closing of the schools and resort to the ordinary methods of fumigation (Ward and Henderson *California State Jour Med*, August, 1897 Lind *Am Jour Pub Health*, 1913, iii, 976)

The Schick test has been found of great value in detecting susceptible persons in an epidemic of diphtheria This consists in injecting superficially beneath the skin one-fifteenth dose of diphtheria toxin fatal for a guinea-pig In a susceptible person a red spot develops at the site of injection in about forty-eight hours If no reaction occurs, it is assumed that the person is immune to diphtheria Under some conditions a prophylactic dose of 1 1,000 diphtheria antitoxin units should be given to exposed persons, although this is generally found more applicable in institutions than in public schools It is not yet clear what are the best methods for freeing diphtheria carriers from virulent bacilli Spraying with antiseptics has not always given satisfactory results Special attention to the hygiene and cleansing of the mucous membranes of the throat and nose, accompanied by frequent washing with large volumes of physiologic salt solution, is likely to be of service It may be emphasized, finally, that the most important single step to be taken in checking the spread of diphtheria in all schools and institutions is the detection and isolation of carriers Arbitrary quarantine of those exposed and of convalescents, without bacteriologic examination, is not likely to be successful

STUART'S CALCIUM WAFERS

To the Editor:—Can you tell me the composition of a proprietary remedy known as Stuart's Calcium Wafers? I believe they are manufactured at Battle Creek. I am particularly interested to know whether there is any arsenic in this remedy

C Ann Arbor Mich

Answer—Stuart's Calcium Wafers are made by the F A Stuart Company, Marshall, Mich The label of a specimen recently purchased on the open market reads 'Stuart's Calcium Wafer Compound—For Constipation, Blood Disorders, Skin Affections, any Derangement of Blood, Bowels, Kidneys or Liver"

The specimen was examined in the Association's Laboratory and the chemist reports

> "Stuart's Calcium Wafer Compound consists of small brown coated tablets weighing on the average 0 0813 gm (about 1¼ grains) The interior of the tablet is composed of an olive-colored material, which when moistened emits hydrogen sulphid The material has a very bitter and unpleasant taste resembling aloes or aloin Qualitative examination indicates that the 'wafers consist essentially of calcium sulphid and aloes or aloin No arsenic could be detected"

Like other so-called "blood purifiers," Stuart's Calcium Wafers evidently are essentially cathartic

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Alabama Montgomery, Jan 11 Sec, Dr W H Sanders, Montgomery

Alaska Juneau Jan 4 Sec., Dr Harry C DeVighne Juneau

Arizona Phoenix, Jan 4-5 Sec, Dr John Wix Thomas National Bank of Arizona Bldg Phoenix

California Sacramento, Jan 11 Sec., Dr Charles B Pinkham, Room 527 Forum Bldg, Sacramento

Colorado Denver, Jan 4 Sec, Dr David A. Strickler, 612 Empire Bldg, Denver

District of Columbia Washington, Jan 11 Sec, Dr Edgar P Copeland, The Rockingham, Washington

Illinois Chicago, Jan 13 15 Sec, Dr C St. Clair Drake, Springfield

Indiana Indianapolis, Jan 11 Sec., Dr W T Gott, 84 State House, Indianapolis

Iowa Des Moines Feb 8 10 Sec, Dr G H Sumner State House, Des Moines

Kansas Topeka Feb 8 Sec, Dr H A Dykes, Lebanon

Minnesota Minneapolis Jan 4 7 Sec, Dr Thomas S McDavitt 814 Lowry Bldg, St Paul

New Mexico Santa Fé Jan 10 Sec, Dr W E Kaser East Las Vegas

New York Albany Buffalo, New York and Syracuse Jan 25 28 Chief Examinations Division Mr Harlan H Horner, State Education Bldg Albany

North Dakota Grand Forks, Jan 4 7 Sec Dr G M Williamson, Grand Forks

Oklahoma Oklahoma City, Jan 11 12 Sec, Dr R. V Smith 502 Daniel Bldg Tulsa

Oregon Portland Jan. 4 Sec. Dr L. H Hamilton, Medical Bldg, Portland

Pennsylvania Philadelphia, Jan 18 20 Sec, Mr Nathan C Schaeffer, Harrisburg

Rhode Island Providence, Jan. 6 7 Sec Dr Gardner T Swarts, Providence

South Dakota Pierre Jan 11 Sec Dr P B Jenkins Waubay

Utah Salt Lake City, Jan 3 Sec., Dr G F Harding 407 Templeton Bldg, Salt Lake City

Vermont Montpelier Feb 8-11 Sec Dr W Scott Nay Underhill

Washington Spokane, Jan 4 Sec., Dr C N Suttner Baker Bldg Walla Walla.

Wisconsin Madison Jan 11 Sec., Dr J M Dodd, 220 E Second St, Ashland

Maryland June Report

Dr J McP Scott, secretary of the State Board of Medical Examiners of Maryland reports the written examination held at Baltimore, June 21, 1915 The total number of subjects examined in was 9, total number of questions asked, 90, percentage required to pass 75 The total number of candidates examined was 97, of whom 78 passed and 19 failed Fifteen candidates were licensed through reciprocity Two candidates were granted reregistration licenses The following colleges were represented

PASSED

College	Year Grad	Per Cent.
Georgetown University	(1911) (1915)	75 86
Howard University	(1913)	75
Chicago College of Medicine and Surgery	(1915)	83
Rush Medical College	(1905)	89
College of Physicians and Surgeons Baltimore	(1913) (1914) (1915)	76 76 75 77 83 84 91
Johns Hopkins University	(1906) (1909) (1912) (1913) (1914) (1915)	87 92 82 86 86 75 77 75 75 77 78 78 78 79 80, 80 80 80, 81 84 84 84 85 87 87 87 88 89 89 89, 89 89 91
University of Maryland	(1912) (1914) (1915)	85 79 75 76 76 77 79 79 80 80 80 81 82 82 82 83 83 83 84, 84 85 85 85 86 86 86 88 88, 90 91
University of Virginia	(1913)	75
Jefferson Medical College	(1915)	79
Temple University	(1915)	82

FAILED

College	Year Grad	Per Cent.
Howard University	(1914)	*, 69, 73
Bennett Medical College	(1914)	*
University of Louisville	(1912)	*
College of Phys and Surgs. Baltimore	(1913) (1914)	73 †, *, 69
Maryland Medical College	(1910) (1912) (1913)	* 64, * *, *
University of Maryland	(1914) (1915)	* 72
Harvard University	(1915)	71
Medical College of Virginia	(1912) (1914)	55 *

LICENSED THROUGH RECIPROCITY

College	Year Grad	Reciprocity with
Bennett Medical College	(1914)	Illinois
University of Louisville	(1911)	Tennessee
Baltimore Medical College	(1898) (1909) (1913)	West Virginia Arkansas West Virginia
Johns Hopkins University	(1912) (1913)	Virginia Missouri
Maryland Medical College	(1904) (1911) (1912)	Maine W Virginia Maine.
University of Oklahoma	(1913)	Oklahoma
Jefferson Medical College	(1896)	W Virginia

Medico Chirurgical College of Philadelphia	(1914)	Delaware
Memphis Hospital Medical College	(1906)	Tennessee
University College of Medicine, Richmond	(1901)	W Virginia

* No grade given
† Examination incomplete.

Virginia June Report

Dr J N Barney, secretary of the Virginia State Board of Medical Examiners, reports the written examination held at Richmond, June 22-25, 1915 The total number of subjects examined in was 8, total number of questions asked, 80, percentage required to pass, 75 The total number of candidates examined was 91, of whom 82 passed, including 3 osteopaths, and 9 failed, including 2 osteopaths Seventeen candidates were licensed through reciprocity The following colleges were represented

PASSED

College	Year Grad	Per Cent.
Howard University	(1914)	79, 81
Kentucky School of Medicine	(1907)	77
University of Louisville	(1915)	75
Johns Hopkins University	(1914) 88 (1915)	88
College of Physicians and Surgeons, Baltimore	(1915)	82
University of Maryland	(1915)	81
Columbia University, College of Phys and Surgs	(1915)	86
New York Homeo Med Coll and Flower Hosp	(1915)	87
Jefferson Medical College	(1911) 78, (1915)	85
Meharry Medical College	(1914)	75
Medical College of Virginia	(1914) 75 76 79 (1915)	75, 75, 75, 75, 75, 75, 75, 75, 75, 75, 76, 76, 76, 76, 76, 76, 76, 77, 77, 77, 78, 78, 78, 79, 79, 79, 80, 80, 80, 81, 81, 81 81, 82, 82, 83, 83, 84, 84, 85 85, 86, 86, 87, 87 88, 88, 89, 92, 93
University College of Medicine Richmond	(1903)	75
University of Virginia	(1877) 83, (1915)	79, 81, 81, 84, 84, 84, 85, 86, 86, 87, 88

FAILED

College	Year Grad	Per Cent.
Howard University	(1914)	71
North Carolina Medical College	(1915)	62
Meharry Medical College	(1915)	64
Vanderbilt University	(1915)	*
Medical College of Virginia	(1915)	67, 70, 72

LICENSED THROUGH RECIPROCITY

College	Year Grad	Reciprocity with
George Washington University	(1914)	Dist Columbia
Atlanta Medical College	(1914)	Georgia
Chicago Homeopathic Medical College	(1899)	Oklahoma
Hahnemann Med Coll and Hosp, Chicago	(1911)	Oklahoma
Hospital College of Medicine, Louisville	(1906)	W Virginia
University of Louisville	(1912)	Kentucky
Baltimore Medical College	(1913)	W Virginia
College of Phys and Surgs, Baltimore	(1910) (1912)	Maryland
University of Maryland	(1904)	Florida
Harvard University	(1888)	Mass
North Carolina Medical College	(1913)	N Carolina
University of Pennsylvania	(1902)	Penna
Chattanooga Medical College	(1905) (1908)	Tennessee
Meharry Medical College	(1912)	Tennessee
Medical College of Virginia	(1896)	Kentucky

* Withdrew

Colorado October Report

Dr David A Strickler, secretary of the Colorado State Board of Medical Examiners, reports the oral and written examination held at Denver, Oct 5, 1915 The total number of subjects examined in was 8, total number of questions asked, 80, percentage required to pass, 75 The total number of candidates examined was 8, of whom 5 passed, including 1 nongraduate and 1 osteopath, and 3 failed Sixteen candidates were licensed through reciprocity The following colleges were represented

PASSED

College	Year Grad	Per Cent
University of Colorado	(1914)	83 3
Columbia Univ, Coll of Phys and Surgs	(1915)	87 4
Vanderbilt University	(1915)	84 4
Nongraduate		79 6

FAILED

College	Year Grad	Per Cent
Keokuk Medical College, Coll of Phys and Surgs	(1905)	*
University of Pittsburgh	(1912)	*
University of Nashville	(1882)	*

LICENSED THROUGH RECIPROCITY

College	Year Grad	Reciprocity with
George Washington University	(1905)	Dist Colum
Chicago College of Med and Surg	(1909) (1910)	Illinois
Hahnemann Medical Coll and Hosp, Chicago	(1903)	Iowa
Rush Medical College	(1901) Ohio (1902) Kansas (1911)	Minnesota
Tulane University of Louisiana	(1903)	Texas
Boston University	(1889)	Connecticut
Univ of Michigan Medical School	(1890)	Michigan
Marion Sims Beaumont Medical College	(1903)	Missouri
Univ and Bellevue Hosp Medical College	(1912)	New York
Cincinnati College of Med and Surg	(1902)	Ohio
Meharry Medical College	(1908)	Florida
University of Nashville	(1904)	Arkansas
University of Texas	(1911)	Texas

* No grade given

Book Notices

MICROBES AND MEN By Robert T Morris, M D To Morrow's Topics Series Cloth Price, $2 net. Pp 539 Garden City, N Y Doubleday Page & Co, 1915

This is the first of a series of three books by the same author entitled "Tomorrow's Topics" The original draft of notes was intended for physicians, but subsequent elaboration of points "followed a line of least resistance into the field of lay interest" The author believes that "Microbes and Men" may "appeal particularly to the readers who are fond of ultrascience" This may be true, for the minds of the great majority of laymen are not trained to scientific thought, but to one accustomed to weighing evidence it could only appeal in the sense that the absurd may momentarily interest one by way of contrast That many of the views expressed are ultrascientific will be readily admitted, with the accent on "ultra" The dominant thought is that all the mental and physical activities of man are dependent on the microbe "The description of all mental and physical activities of man as being dependent upon the microbe rests upon a basis of fact which is known to a few men" If the fact is known to a few men, these favored few have been very careful to keep the facts to themselves If the author is one of the few, he too has kept the facts to himself, at least he has not divulged them in "Microbes and Men" The author evidently believes, as he says, "that one may sometimes get a right conclusion out of faulty premises if his logic is bad enough," and no one will question that his premises are faulty and his logic bad, but a "right" conclusion based on faulty premises is far from being evidence of truth Definitions frequently are so loosely drawn that they give the author, as he says, "as large a charter as the wind" What could give one greater latitude when dealing with chemistry than to define it as "everything that is going on"? It certainly would allow one's fancy to roam as free as the wind Further analysis of the logic, or rather lack of logic, is unnecessary, for the author does not ask any one to agree with him, and admits that "it has been necessary to allow highly speculative theories, accepted facts and tenable hypotheses to run along side by side in mixed company Each reader, then, may exercise his own judgment in selecting what appeals to him out of his personal experience." This generosity on the part of the author would indicate that he does not expect to carry conviction to any one, and in this respect he probably will not be disappointed The book cannot be looked on as a scientific production, but rather as the disconnected thoughts of a busy surgeon who feels that he has messages to deliver to the world The messages as defined in the preface are good, but they are so smothered in the text that they run great chances of being missed entirely

THE CLINICAL ANATOMY OF THE GASTRO INTESTINAL TRACT By T Wingate Todd M B, Ch B, F R C S Henry Willson Payne Professor of Anatomy in the Western Reserve University, Cleveland Cloth Price $1 75 net Pp 264, with 32 illustrations New York Longmans, Green & Co, 1915

This volume, as the author says, "embodies the substance of the course of lectures on the alimentary canal as given in the anatomical laboratory of Western Reserve University", but it deals with much more than the clinical anatomy The author discusses the physiology of the alimentary tract, as well as many operations and the effect of these operations on the physiology of the organs involved One can get deadhouse anatomy from the dissecting room and the textbook, but what is wanted is not deadhouse anatomy but living anatomy, living anatomy is inseparable from physiology or function This little work teaches living anatomy as well as it is possible to do away from the operating table. A surgical operation is something more than a mechanical procedure on an inanimate object, it is a mechanical procedure on living active tissues, and a reading of this book will do much to disabuse one's mind of the idea that anatomy is inanimate The too frequent alternating use of the term "gullet" and "esophagus" for the same structure is confusing at times For instance, we find "The gullet has no tactile sensibility Carminatives, hydrochloric, lactic and acetic acids produce no sensation in it The esophagus is sensitive to thermal stimulation, alcohol produces a burning sensation in the gullet," etc These small criticisms, however, detract little from the merit of the work as a whole

Text Book of Nervous Diseases for the Use of Students and Practitioners of Medicine. By Charles L. Dana, A M, M D, LL D, Professor of Nervous Diseases in Cornell University Medical College Eighth Edition Cloth Price $4 25 net Pp 632, with 262 illustrations New York William Wood & Co, 1915

The existence of this book for twenty-three years has established it as a standard teaching book on nervous diseases As the author says, the production of general and special textbooks on the anatomy of the nervous system since the first edition, as well as the newer developments in neurology, has permitted and required some change in the plan of the book From this edition much of the anatomy has been left out, only revised descriptions useful in diagnosis and for reference being retained, in the revision of the remainder of the work there have been added new chapters on poliomyelitis and on tumors of the spinal cord and brain, and the newer information of syphilis of the nervous system—paresis, tabes, etc, and the serology of nervous diseases, in which the author acknowledges the assistance of several collaborators Methods of diagnosis and examination and description of symptoms have been revised, and a list of the growing collection of eponymic signs and syndromes has been provided Therapeutics, particularly drug therapeutics, has been practically left out of the book, and many physical methods of treatment have been merely mentioned, the physician or student being left to obtain the details of such methods from the numerous available books devoted to them Many new illustrations have been added The book is so well and favorably known that it needs no recommendation

Text Book of Forensic Medicine and Toxicology By R J M Buchanan M D F R C P Professor in Forensic Medicine and Toxicology University of Liverpool Eighth Edition Cloth Price $3 25 net Pp 417, with 46 illustrations New York William Wood & Co, 1915

The present edition of this work is a continuation of the volume formerly issued under the title of Husband's "Forensic Medicine" It has been thoroughly revised, many alterations and additions appearing throughout. While it is not so comprehensive as many similar works, it covers the ground in a sufficiently extensive manner for the student and younger practitioner, for whom it is primarily intended The book is divided into two sections the first of which contains sixteen chapters on forensic medicine, and the second section fifteen chapters on the general and special methods of toxicology The numerous tables outlining differential tests and symptomatology are especially worthy of mention and the photomicrographs are excellent The book is clearly and concisely written, and should prove valuable to students and practitioners in enabling them to obtain a general idea of this important subject

A Text Book of Chemistry and Chemical Uranalysis for Nurses By Harold L Amoss S B S M M D Cloth Price, $1 50 net Pp 268 Philadelphia Lea and Febiger 1915

The author believes that chemistry is not given the attention in graduate and undergraduate instruction of nurses that its importance merits, and that the more chemistry a nurse knows the greater her value to the patient and to the physician Along some lines, dietetics, for example, this may be true, but the majority of physicians send specimens for analysis to a properly equipped laboratory for examination, a nurse seldom if ever possesses the necessary equipment, and hospital laboratories are generally in charge of properly qualified men This particular book, however is clear and concise, and seems well adapted for use as a textbook for nurses

Medicolegal

Common Law Basis for Ordering Physical Examinations—Some Rules for Them

(Williams vs Chattanooga Iron Works (Tenn), 176 S W R 1031)

The Supreme Court of Tennessee affirms a judgment holding that a trial court has the right to compel the physical examination of a plaintiff suing for personal injuries The court says that the power is affirmed in the following jurisdictions Alabama, Arkansas, California, Colorado, Georgia, Indiana, Iowa, Kansas, Kentucky, Maryland, Michigan, Minnesota, Missouri, Nevada, Ohio, Oklahoma, North Dakota, Washington and Wisconsin It is authorized by statute in New York, New Jersey and Florida It is denied in Illinois, Montana, South Carolina, Utah, Texas and in the Supreme Court of the United States One of the chief questions discussed in the cases is the basis of the right to make the examination In some it is insisted that it is a right inherent in the courts for the purpose of effecting justice, and in those which object to the right it is insisted that no such power inheres in courts, and that it can be conferred only by statute It is denied in the negative cases that such practice is recognized in the common law But the Supreme Court of Tennessee believes the right was exercised at common law, although not in precisely the same way in which it is practiced at this time At common law there was an old action known as an appeal of mayhem, which was for any hurt done to a man s person, whereby he was rendered less able in fighting to annoy others, or defend himself The demand was set forth in a declaration, describing the offense with the greatest certainty, also showing in what part of the body the wound was given, and certain excerpts from early authorities seem to indicate an ancient practice of having a personal examination of an injured plaintiff, generally by the court, sometimes by the court and jury, generally without the aid of medical men, but sometimes with their aid This court here finds what seems to it the germ of the present practice It has been developed and extended in modern times like other principles to meet the needs of the business transacted in modern courts

In the cases cited which recognize the doctrine, it is applied with great restraint, and with a careful attention to the rights of the plaintiff He must first be asked to submit to an examination, and the court can be applied to only after his failure to consent. The application to the court must be made before the trial, and so as not to create unnecessary delay The examination cannot be ordered on mere motion The application should be supported by affidavit setting forth pertinent facts and reasons The examination cannot be had merely to obtain cumulative evidence It must be made to appear that it is necessary in order that justice may be done to the defendant It should affirmatively appear that the examination can be made without danger to the plaintiff, or any serious pain Proper inquiries on these heads should be made by the trial judge before ordering the examination, and his conclusions should be written down in the order Being thus prepared for the proper exercise of his discretion, he may act, and either grant or disallow the application

If the application be granted, the physician or surgeon must be selected by the trial judge, and he must be one of competent skill, and indifferent between the parties In the conduct of the examination, the privacy of the plaintiff's person must be preserved as far as possible In the case of a woman, there should be female physicians, if they are accessible If application be made therefor, the plaintiff's own physician should be permitted to be present at the examination And while the expense must be borne in the first instance by the defendant making the application, the fee should be fixed in advance, and paid into court, to be paid to the expert when he files his report The expert should file a report, stating in detail the result of his examination, but not for use as evidence, except in the crossexamination of the expert, if made a witness

Liability for Death Attributed to Negligence in Loss Internally of Drainage Tube

(*Sontag vs Ude (Mo), 177 S W R 659*)

The St Louis (Mo) Court of Appeals affirms a judgment for $3,500 damages in favor of the plaintiff for the death of his son, about 13 months of age, attributed to the alleged negligence of the defendant physician in losing internally and failing promptly to recover a drainage tube The original verdict was for $5,000, from which to prevent a new trial being awarded, the plaintiff remitted $1,500 His petition stated that the defendant was called about February 14 to treat the child for bronchial pneumonia In the course of the treatment the defendant made an incision in the region of the fourth and fifth ribs, under and a little behind the left arm, April 13 opening this incision and inserting a tube about 5 inches long for the purpose of drainage, on which latter date the tube was lost The child thereafter grew worse, but the defendant failed to discover that the tube was in the child's body until April 30, when the defendant removed the tube by an operation performed therefor, after which the child died, May 7 The plaintiff charged that the death of the child was directly caused by the negligence and unskilfulness of the defendant in so placing the tube in the incision in the body of the child that it could and did slip inside his body, and in failing to locate and remove the tube within a reasonable time From the evidence it appeared that the incision for drainage was first made March 6, and that the defendant "anchored" the tube by sticking a safety pin into it and through the skin of the child, but, the plaintiff protesting against this, the pinning to the skin was discontinued It appeared also that when the defendant discovered the loss of the tube, April 13, he told the plaintiff that it had dropped into the baby and that they would have to operate right away to get the tube out, but the plaintiff doubted this, and they searched all over the premises in an effort to find the tube, that the plaintiff insisted on having the child examined under Roentgen rays, but that the defendant said that rubber would not show, or the tube might be lying back of a rib, and would not show April 16, with the assistance of the same two surgeons who had assisted in the first operation, the defendant removed part of a rib, but did not find the tube The plaintiff insisting on the use of the Roentgen rays, that was finally done, the tube being thereby located and removed April 29 Moreover, it was in evidence that while the child had apparently completely recovered from the effect of the first operation, he began to fail after April 13, when the tube fell in, and gradusually grew worse, becoming mere skin and bones, took no nourishment, had a high fever, and, as the father testified, "lay like a stone," until he died The defendant introduced no testimony But, with the testimony given by the plaintiff and the nurse before them, although unaided by professional expert evidence, the court thinks that the jury, as intelligent men, were competent to say whether the conduct of the defendant was proper The negligence charged was the insertion of a rubber tube in the wound and leaving it there unsecured, so that it slipped inside the body, that was the primary negligence charged, then followed the charge that this tube was allowed to remain in the cavity so long that death resulted when it was finally removed Whether these were acts of negligence, was for the jury Whether these acts were the proximate cause of the death was within the competency and intelligence of the jury to determine No professional—no opinion—evidence was necessary, so far as the plaintiff's case was concerned If these matters were not the cause, if the defendant's conduct was that of a reasonably skilful surgeon and physician, it was for him to have put in his proof The facts in evidence, if believed by the jury, were of sufficient probative force to warrant the jury in holding the defendant liable for the negligence charged, if those facts were undisputed

Emotion and Life—A life without emotion would be a dead calm, a vegetative, worthless existence—*Monthly Health Letter*

Miscellany

The Massachusetts Dispensary Law

Massachusetts has a law requiring each city and town having a population of 10,000 or over to maintain a free dispensary for the discovery, treatment and supervision of needy persons resident within its limits and afflicted with tuberculosis The law is mandatory, and following a notice served on all cities and towns with the population named by the state commissioner of health early in the present year, such dispensaries have been established This has been a considerable undertaking in towns of small population In some of the smaller cities and towns the need of a full-time, skilled tuberculosis worker is apparent, but in others the need has not been so evident The discussion of the dispensary problem in the *Public Health Bulletin* of the Massachusetts State Department of Health says that to meet the situation it has been the policy of the department, when the cooperation of the local authorities could be secured, to encourage a broadening of the functions of the dispensary so that they would include all functions that could be considered those of a public health social service center, and it is believed that such will be the logical evolution of most of the tuberculosis dispensaries of the smaller cities and towns Combining the services of school nurse, factory nurse, board of health nurse and baby hygiene or district nurse in one person will, it is believed, be a satisfactory solution of the problem The weakness of this plan is the danger of underestimating the local needs in many of these lines of public health service, resulting in inadequate or superficial work and in the overloading of a single worker As to the results of the state-wide tuberculosis dispensary policy, it is, perhaps, too early to make an estimate The following figures, however, are given in the *Bulletin* The tuberculosis dispensaries report a total of 2 778 individuals who have had first examinations since July 1 Of these, 27 per cent were made by dispensaries which were not in existence before July, 32 per cent are reported from Boston, and 68 per cent by the other dispensaries of the state The actual examinations are believed, however, to be only a rough index of the activity and value of the dispensaries The work so far is really preliminary, and nurses and all others connected with the dispensary work are making a study of the tuberculosis situation in the various communities They have hardly begun to get patients into the dispensary for examination, to say nothing of contacts In future, scores of cases will be brought into touch with dispensary service A large percentage of the patients already examined have been found to be advanced It is emphasized that the nurse should not confine her field work to dispensaries alone but in every city and town she should cooperate with practicing physicians

Dust and Tuberculosis

In an article on tuberculosis in *Public Health Reports*, Oct 29 1915, Dr George M Kober considers the influence of dust on the prevalence of disease particularly tuberculosis The tuberculosis rate among 472 000 males in the United States exposed in fifteen occupations to the inhalation of organic dust was 2 29 per thousand, against a rate of 1 55 for all occupied males, 42 05 per cent of the deaths of printers, lithographers, and pressmen, who died at ages between 25 and 44, were from tuberculosis, as compared with 21 88 per cent. for farmers, planters and overseers

In Berlin, as shown by Sommerfeld, the average tuberculosis death rate was 4 93 per thousand of the population In nondusty trades it was 2 39, and in dusty trades 5 42

In Vermont in towns where granite and marble cutting is carried on, in a population of 34,899 the tuberculosis rate was 2 2 per thousand, against a rate of 1 3 for the entire state

Kober says it is estimated that industrial workers, constituting about one third of the population, contribute about one half of all the deaths from tuberculosis By factory sanitation and effective methods for the prevention and removal of dust, fully one half of these lives could be saved That this is not speculative is indicated by the figures from Solingen, Germany, where the population is made up largely of employees in the cutlery industry The mortality had been reduced from 20 63 per thousand in 1885, to 9 3 per thousand in 1910, and the tuberculosis rate from 5 4 in 1885 to 1 8 in 1910 per thousand population In the German cement works also diseases of the respiratory organs have been reduced from 9 3 to 3 3 per cent after the installation of dust-preventing apparatus

Society Proceedings

AMERICAN ASSOCIATION FOR STUDY AND PREVENTION OF INFANT MORTALITY

Sixth Annual Meeting held in Philadelphia Nov 10 12 1915

Dr. Charles A Fife, Philadelphia, in the Chair

RESPIRATORY DISEASES

Statistical Study of Respiratory Diseases as a Factor in the Causation of Infant Mortality

Dr. **William C Woodward**, Washington, D C The importance of the part played by diseases of the respiratory system in causing deaths during the first year of life has been to a considerable extent overlooked In the registration area of the United States in 1913, diseases of the respiratory system caused 15 85 per cent of the total mortality in the first year of life, approximately one quarter of the total mortality from these diseases at all age periods taken together A campaign against diseases of the respiratory system in infancy will form an important factor in any campaign that may be inaugurated against such diseases generally Bronchitis and pneumonia caused 95 per cent of all deaths in the first year of life due to diseases of the respiratory system Deaths from diseases of the respiratory system apparently occur to a greater extent during the third week of life than during any other weekly period while the heaviest month's toll was levied in the first month of life, with a percentage of 18 62

Prevention of Respiratory Diseases

Dr. **Royal Storrs Haynes** New York In the prevention of respiratory diseases two important factors are destruction or exclusion of the infecting organism, and preservation of the resistance. Transference by contact is the method of infection in most instances and this may be avoided by real cleanliness In connection with the second factor, the preservation of a perfectly functionating vasomotor system is of the greatest importance I suggest the appointment of a committee on the prevention of respiratory diseases, whose duties should be (*a*) to supervise the conduct of an intensive investigation of respiratory affections in a selected area in a selected city, (*b*) to arrange for the publication of articles in the medical and lay press dealing with the importance of these affections, acquainting the laity with the loss of time, money, health and life which the diseases cause, (*c*) to investigate the health laws of the various states with the view of determining the present legislation on these subjects and where desirable to improve it, (*d*) to inaugurate an educational campaign by lectures for those which the printed articles will not reach, and (*e*) to stimulate the care of the child before entering the school age by laying greater emphasis on his medical supervision between the milk station and school age

Treatment of Respiratory Diseases Value of Fresh Air

Dr. **John Lovett Morse**, Boston Great confusion prevails as to the use of the term "fresh air" It may be defined as air which is in motion dry and cool It is not necessarily outdoor air Fresh air and cold air are not identical In certain diseases of the respiratory tract cold air acts as an irritant to the respiratory mucous membrane Cold air is a stimulant to the vasomotor system It has been thought to be of advantage in pneumonia on this account Recent investigations show that blood pressure is not lowered in pneumonia and that the vasomotor system is not impaired Fresh air is of advantage in all diseases of the respiratory tract Cold air does harm in acute stages of nasopharyngitis, laryngitis and bronchitis It may or may not be of advantage in the later stages of these conditions and in bronchopneumonia It is questionable whether in pneumonia it lowers mortality As it is not possible to treat all diseases of the respiratory tract in the same way, cold air must be used with discrimination

Discussion on Respiratory Diseases

Dr. **L Emmett Holt**, New York We cannot too strongly emphasize the importance of quarantine of the infant when other members of the family have colds This particularly obtains in connection with premature infants Against the contagiousness of pneumonia our efforts must be directed largely to raising the resistance of the infant. There have been almost as many deaths caused by cold air as there have been cures effected Cold air is a means of treatment to be used with great discrimination I have seen a great amount of harm done by the treatment of acute respiratory diseases, especially in young infants, by exposure to cold air

Dr **S M Hamill**, Philadelphia I want to caution you in regard to the use of vaccines in the prevention of colds The whole question of vaccine therapy is so undecided at the present time, and the dangers connected with the use of vaccines so manifest, that the subject should never be presented to an audience, especially one composed largely of laymen, without a word of caution against their promiscuous use Also, the promiscuous use of any form of nasal douche is apt to do more harm than good I am in entire sympathy with Dr Morse in believing that fresh air has been incautiously employed Dr Morse defines fresh air as cool, dry and moving air I believe that the proper way to obtain this is through the open windows and not by a ventilating system This is especially true in the homes of the poor, among whom diseases of the respiratory system are especially prevalent.

Dr. **J P Crozer Griffith**, Philadelphia It never has been proved that the universal employment of cold air, or fresh air, or open air, for the treatment of pneumonia or other respiratory diseases is the correct measure The excessive use of cold air for the treatment of respiratory diseases has been a fad and has gone beyond the medical profession into the hands of nurses hospital managers and the laity in general If among medical men there is doubt concerning the cases in which this treatment may be used, certainly the measure is not safe in other hands I am a believer in fresh air for many diseases of the respiratory system, but it must be used with the greatest judgment I agree with Dr Holt that we see patients who are made worse by its indiscriminate use We see others who improve only by this treatment.

Dr **Cressy L Wilbur**, New York The foundation of the work of the prevention of infant mortality is the registration of births and deaths It is a shame to this country that the births of its infants are not registered The only exception to this lack is the state of Pennsylvania, and I want to congratulate the people of this commonwealth and municipality on their influence in compelling legislation in this matter

THE MIDWIFE

The Education, Licensing and Supervision of the Midwife

Dr **J Clifton Edgar** New York The midwife for traditional social and economic reasons attends about 40 per cent of confinements in this country and is at present a necessary evil The solution of the question in the rural districts is in the inclusion of midwifery service in rural district nursing should a physician not be available In illustration of this we have the proposed course of midwifery in the Washington University Hospital in St. Louis The midwife should never be regarded as a practitioner Her only legitimate functions are those of a nurse plus the attendance on a normal delivery when necessary No unlicensed women should be permitted to practice and even as a temporary measure only properly qualified women should be granted a license Even licensed midwives should be supervised by the local department of health as is done in Buffalo, Pittsburgh and Providence, the system following closely that in operation in England and New Zealand, where infant mortality is conspicuously low

Is the Midwife a Necessity?

Dr J M Baldy Philadelphia This country contains several groups of foreigners who have been accustomed to the midwife and until immigration ceases and these peoples are evolved into Americans, the midwife will be demanded The question resolves itself into the proper education and control of the midwife Results are obtained by meeting existing conditions and improving them There is no state, city or town in the United States in which by the passage of laws it has been possible to eliminate the midwife Any measurable degree of success has come only through education and control

Progress Toward Ideal Obstetrics

Dr Joseph B De Lee, Chicago I am opposed to any movement to perpetuate the midwife She is a relic of barbarism, and her perpetuation demands a compromise between right and wrong She is a drag on the progress of the science and art of obstetrics, her existence stunting the one and degrading the other The foreigner is becoming enlightened on the value of medical attendance and demanding it The visiting nurse does an amount of maternity and prenatal work [illegible] fully recognized There are thousands of young physicians who would take cases now cared for by midwives were it not considered undignified work, and also undignified to accept such a small fee for the service In educating the midwife we assume the responsibility for her, we lower standards and compromise with wrong, and I for one, refuse to be *particeps criminis*

Discussion on the Midwife

Dr William R Nicholson, Philadelphia Without inspection of every case we cannot control the midwife We have in Philadelphia five inspectors, graduates in medicine, who inspect every case after delivery has taken place It seems to me that an association of this sort could do an immense amount of good if its members worked on a common ground To me the question at issue is the benefit of the women now attended by the midwife We do not believe that the midwife can be eliminated at present, and all we are doing is carrying out a *police* supervision—there is no other word for it The women are brought to account for any infraction of requirements We have saved the lives of babies and mothers, and improved obstetrics by our work, which may be regarded as a temporary expedient I believe that if we had a certain number of English speaking, intelligent young women trained to care for women in labor, we would be able to get rid of a number of the midwives We have nine such young women who have been in training from six to eight months They attend lectures given by one of the inspectors, and must see and deliver twenty patients under inspection This is an experiment which Dr Baldy has given us permission to try out, and we believe that the result in a year or two will be good

Dr J Whitridge Williams, Baltimore When you come to face the inspection of midwives in the big cities, unless there is a competent man at the head of the work the effort is going to be a miserable failure One of the greatest advantages in modern obstetrics is the development of prenatal care Further development of obstetrics lies in supervision of the woman after confinement, but this prenatal and postnatal service involves the work of the obstetrician, the pediatrist and the social service worker The crux of the matter is the proper education of doctors to be competent obstetricians We have just begun to understand in this country what the obstetrician is It is much more than a "man midwife" The man who invented the obstetric forceps was named Chamberlen He called himself Hugh Chamberlen, "man midwife" "Man midwife" and "accoucheur' are two terms that rouse my ire The "man midwife" has disappeared and the "accoucheur" is disappearing, what we want is the scientific obstetrician We can get him only by the development of medical education We need a large, thoroughly equipped woman's hospital where everything pertaining to women and childbearing is studied from the point of view of teaching that which we now know and for the acquisition of new knowledge Such a hospital has been endowed in Pittsburgh and this should set the pace for other cities

Dr S Josephine Baker, New York My interest in the midwife is solely to make her as nearly as we can a fit person to give the mothers and babies their essential care, but it is an absolute impossibility to abolish her in the city at the present time In New York, the mortality and morbidity of mothers and babies attended by midwives is in most instances, in proportion, less than that among those attended by physicians We are coming to the better education of the medical student, but in the interim we are doing, just so far as we are able, that which seems the most efficacious and most nearly protects the mother and baby The midwife is being eliminated We have in New York only half as many as there were seven years ago It is probable that this elimination will come about by making the standard so high that none of the ignorant and untrained women can reach it At present the women will practice whether you want them, whether licensed or not, and it is infinitely better to see that the care given by the midwives is at least adequate In prenatal work my experience is that the midwife is one of our best cooperators in referring the mother to us for instruction, and, contrary to what has been said, the women do engage the midwife quite as early as women engage the doctor We are having meetings with the midwives for purposes of instruction, and they are beginning to look on the health department, not as something to be feared, but as something which is a very definite help to them Through such cooperation we believe we shall obtain reforms more effective than those obtained by radical measures

Dr Arthur B Emmons, Boston Nothing is being done in Massachusetts to eliminate the midwife Our law registers physicians, and if a midwife wants to qualify before the board of licensure she must pass the examination It is interesting to note that the daughter of one midwife has already taken a course in medicine and qualified as a physician I believe that the plan which we have in Boston is an answer to the question of eliminating the midwife We have been working out a plan of holding prenatal clinics and conferences From among the graduates of the lying-in hospital we select a number of young physicians who attend these patients, receiving from $5 to $10, depending on the section in which the women live The follow-up work is done by the visiting nurse, and I am satisfied with our results from a medical point of view I have worked the idea out with graduates in medicine with the thought of its adoption in other parts of the country Pennsylvania is leading this country in its requirements for medical licensure

Dr. George W Kosmak, New York There is no stronger argument for the elimination of the midwife than the statement that she should be under supervision

Dr Williams, New York There is no demand for obstetric hospitals or dispensaries in the rural districts, there is a demand for good midwives I expect to see the midwife in the state of New York for some time, and I intend to see that some such supervision as that developed by Dr Baldy is established

Wages and Employment as Factors in Infant Mortality

Mr Sherman C Kingsley, Chicago Districts which have the largest measure of poverty also have a higher mortality from all causes than have localities better circumstanced It is difficult to assess baby deaths definitely against low income, but poverty involves housing, overcrowding, quality and amount of food, sunlight, air and wholesome leisure for mothers With the baby, as with communities, life and health are purchasable Figures show that babies of families living in one room have less than half the chance of those living in four, and the infant whose father receives less than

$10 a week has about half the chance of life as the one whose father earns twice this amount Our life-saving advice to the mother must be accompanied by an industrial order which gives a living wage to the father

Maternity Insurance

Dr. Lee K Frankel, New York From the thirteenth century, provision, either in the home or in hospitals, was made under the auspices of philanthropic agencies for the care of indigent women in childbirth Changed industrial conditions have necessitated legislation protecting women working prior and subsequent to maternity In practically all European countries such legislation has been enacted under which women are forbidden to work for periods varying from two to six weeks before and after confinement, while in the United States in only four states has such legislation been established These states are New York, Vermont, Massachusetts and Connecticut The next logical step to this compulsory legislation was the development of a scheme of insurance for the lying-in period to replace the wages lost Such schemes of insurance have been organized in nearly every European country In Italy alone has the insurance plan developed as a distinct maternity insurance to which both employer and employee contribute In other countries, insurance against maternity is a phase of general sickness insurance, the dues being paid by all members of the scheme It has been estimated that under a sickness insurance scheme in which practically all of the working element of the population are members it would be possible to give maternity benefits for a period of from four to six weeks, and in addition, medical care and medicine at a cost varying from 0 5 to 1 5 per cent of the wages I believe that if a scheme of maternity insurance were developed in the United States, it would be wiser to make it a general sickness insurance scheme rather than a specific maternity insurance

To What Extent May the Mother Substitute Proprietary Preparations for the Advice of a Physician?

Dr Carl L Alsberg, Washington, D C The mother in giving proprietary remedies is governed by false ideas of economy and convenience, and the truth should be presented to her by all possible means The physician has a public and professional duty in the education of the public on this vital question The dealer is concerned solely from the business standpoint The solution lies in an educated public opinion

Baby Saving Activities

Dr Gavin S Fulton, Louisville, Ky In our babies' milk station we have done away with the rule of giving free milk to everybody and give it only to those in great need This change has made no difference in attendance, and the interest in the teaching side has not abated We have five stations in which a weekly clinic is held with a doctor and nurse in attendance We have had a death rate among the children seen in these clinics of 1.2 per cent

Dr J H Mason Knox, Baltimore We have been able to enlarge our work during the past year by the addition of four new welfare stations We have a supervising nurse in the central office where the matter of publicity is looked after We have in connection with the Johns Hopkins clinic a nurse visitation service, and we are undertaking the visiting of all dispensary cases We have access to the birth registrations of the city, and every week our nurse visits the homes of the new-born babies In this way we shall be able to keep the latter under skilful advice for the first year of their existence

Dr. Thomas B Cooley, Detroit An interesting new departure which we made in Detroit was to establish a health center in a manufacturing village on the edge of our city In the first quarter the mortality for the village as a whole was reduced from approximately 27 per cent. to 17, and in the district where intensive work was done, the mortality dropped from 25.8 per cent to 12 6

Miss Carr, Montreal We have twenty-three French and five English stations, all supported by the city We have people coming to them of almost every nationality in the world

Dr Joseph S Wall, Washington, D C We have had an increased attendance at our welfare stations of from seventy-six in the first year to 1,749 in the present year We established the prenatal work two and a half years ago, and the total number of mothers reached is 244 We have added to our nursing staff a prenatal nurse and a field nurse Every one of our mothers has had the ability to feed the baby at the breast, and satisfactory results have been obtained by instituting the four hour nursing schedule when the mothers were working away from home We have an eight hour law in our city, and this gives the baby one nursing if the mother can go home or have the baby taken to her We have three and four conferences a week in our milk stations We try to make the stations as attractive as possible, and look on them as mothers' clubs

Dr Henry F Helmholz, Chicago I can report for Chicago an increase of from 5,400 to over 8,000 cared for at our milk stations We have worked successfully in cooperation with the Illinois Home and Aid Society A special nurse visits all the homes in which the aid society has placed its babies and sees that the foster mothers come to an infant welfare station once every two weeks

Dr William N Bradley, Philadelphia Among the newer activities of our baby welfare work is an investigation of the manner of control of homes for children under 3 years of age and a plan has been worked out for their government An effort has been made to have hospitals adopt certain regulations helpful to child welfare, in the matter of number and lengths of visits to children in the hospitals, the wearing of gowns by visitors entering the wards, and in the answering of inquiries by some one in intimate charge of the patient with the least possible delay One other activity has been the establishment of a wetnursing bureau under the control of the new department of child hygiene which has come about largely through the efforts of the Babies' Welfare Association

Dr J Herbert Young, Boston The work of our baby welfare association has grown from 738 babies under our care in 1909 to 4,679 for the year ending October, 1915 This means that approximately 25 per cent. of the entire infant population of Boston is now receiving milk and nursing at our twelve stations Our medical staff has increased from fourteen to twenty-four physicians Almost without exception these men are specialists in the care of infants and children Although we are still unable to pay our physicians, these appointments are highly esteemed

Miss Mary Arnold, New York Our Babies' Welfare Association is a federation of all organizations affecting babies directly or indirectly Our board of health sends a letter to all mothers losing their babies asking if they would like to nurse another A nurse makes an inspection, and if the conditions are satisfactory the mother is sent another baby to nurse The association acts as a clearing house in the federation We have now fifteen hospitals which report their babies to us on discharge The nurse in the milk station waits to see whether the mother brings her baby to us, and if she does not visits the home so that in the first month of life the baby may receive the care it needs

Dr Collins H Johnston, Grand Rapids Mich Our death rate has not been above 10 per cent in the last five or six years We have two outdoor clinics and will have two more this fall

Dr George W Goler Rochester We are trying to link up our baby welfare work with the schools, placing the emphasis chiefly on education We also have a day nursery for the care of women obliged to work away from home and in one school we have thirty-five children under 3 years of age Our aim is prenatal and postnatal work with the care of the child after it leaves the milk station At five years when entering the school, the school physician will follow it up until it goes to work. This should be the real aim of welfare work.

Mrs Max West, Washington D C The Federal Children's Bureau is preparing for a nation-wide baby week next spring We have prepared a circular of information which we are glad to furnish on application The Children's Bureau is especially anxious to deal with the rural problem

Infant Welfare Work, Its Purpose, Opportunities and Agencies

Mr **Homer Folks**, New York Infant welfare work is preventive rather than remedial In a very few years the infant welfare movement has changed from the dealing with the few for curative purposes to dealing with the multitude for preventive purposes From every point of view, infant welfare must be regarded as raising the level at which the struggle for existence occurs, and not simply a concession to humanitarian instincts From the point of view of the largeness of opportunity, we find great encouragement from the history of recent years that infantile illness and mortality are preventable with relatively little effort and expense Compared with other large public health movements, the reduction of infant mortality is simplicity itself The New York State Health Department states that there are about 300,000 deaths per annum in the United States among infants under 1 year of age, and that 150 000 of these are preventable For this work elaborate institutions are not required We need chiefly plenty of paper, printers' ink and trained nurses Baby saving is the bargin counter of philanthropy Infant welfare work is the great opportunity of the moment to do something in which everybody must believe Just how much we can do is uncertain because of many factors, chief among which is the lack of vital statistics Concerning the agencies for this work, we find that the bulk of effort is being done by private initiative, receiving in many cases some public aid, with the tendency toward the transference of the work to public responsibility The job is clearly a public one Public health generally is certainly a public function, and infant welfare is an integral part of the public health problem

Institutions as Foster Mothers for Infants

Dr **Alfred F Hess**, New York The sweeping denunciation of the institutional care of infants is not justified If the administration is poor, the babies will suffer whether in homes or in asylums, and there is nothing inherent in either system which leads to health or to disease At present there is no established statistical basis of approach to the question as there is no approved method of calculating the death rate in an institution

A Community Program of Public Health Nursing and Social Service

Mr **Richard P Borden**, Fall River Mass Social agencies should be coordinated so that each shall work in its special department and all work together Health is fundamental in community efficiency Hospitals are expensive, and it pays to avoid the necessity of hospital care Therefore, visiting nurses are necessary adjuncts of hospitals Sources of accident and disease are ignorance and improper methods of living Settlement houses teach the family that it is cheaper to prevent disease than to cure it, and in consequence hospital costs are reduced Day nurseries, children's societies and other social organizations are directly related to the hosp tal and its kindred agencies While it is valuable to preserve entities of social organizations, business and benevolence should combine

Miss **Elizabeth Gordon Fox**, Washington D C Believing that the old plan of specialization in public health nursing was wasteful, confusing and inefficient, in 1914, the Visiting Nurse Association, the Tuberculosis Society and the Department of Health of Dayton, Ohio, "pooled" their interests, and combined the three staffs of nurses into one under one superintendent, in one headquarters While each governing body retained its own autonomy and raised its own budget, the work of the three was administered as a unit The nursing specialties were eliminated, the city was divided into small districts, one nurse to a district, and each nurse did all kinds of nursing in her own district The infant welfare work was greatly increased in quantity and quality as a result of this plan of centralization and generalization The infant mortality rate fell from 133 during the four summer months of 1913 to eighty-five during the same period of 1914 This was felt to be largely due to the efficiency of the new plan of administration

Special Versus General Nursing in Infant Welfare Work

Dr **H J Gerstenberger**, East Cleveland, Ohio The best results in public health and social work are to be secured by placing all of the work of a district in the hands of one worker who shall be supervised and directed by a physician who, on the basis of knowledge and common sense, is competent to have such supervision and direction

Miss **Marie Phelan** Chicago The infant welfare nurse must be interested in the family and in the sanitary conditions of the home that she may create a proper environment for the baby It is through her influence that the father is referred to the tuberculosis clinic and the nurse is welcomed to give information concerning the conditions of the home The question of more than one nurse coming into the home has been greatly overestimated, in reality there is little fear of overlapping In only two families in eighteen districts were the infant welfare nurse and the district nurse visiting at the same time I think but few nurses are capable mentally and physically to look after every branch of nursing

Dr **S Josephine Baker**, New York If we are going to deal only with the sick baby, our ideas will be so diverted from the main purpose that our well baby is going to stand in the background In our municipal work when we have tried to keep the well baby well our mortality has dropped sharply The public health nurse from the point of view of the department of health is a sanitary officer with the education of a nurse She is a teacher, but she is not like the district nurse a nurse of the sick There is great danger of overspecialization, but not necessarily so, if our ideals are kept clearly in mind

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below

Albany (N Y) Medical Annals

November, XXXVI No 11, pp 517 566

1 Albany Hospital Report of Department for Mental Diseases, for Year Ending September 30, 1915 J M Mosher, Albany

American Journal of Public Health, Boston

November, V No 11 pp 1103 1194

2 American Achievements and American Failures in Public Health Work W T Sedgwick, Boston
3 Public Health C S Whitman, New York
4 Development of American Public Health Endeavor S Smith, New York
5 Appreciation of Henry Lomb C A Barbour, Rochester, N Y
6 Responsibility of City in Tuberculosis Movement T B Sachs, Chicago
7 Increasing Organic Disease — New Public Health Problem E E Rittenhouse, New York
8 Marriage Health Certificate, Deeply Rooted Social Problem O Dowling, New Orleans
9 Certain Sanitary Aspects of Candy Manufacture E H Cummins, Boston
10 Report of Committee on City Wastes, Economics of Waste Collection and Disposal P M Hall, Minneapolis
11 Improvement in Composition of Lactose Bile T W Melia, New York
12 Testing of Disinfectants S Rideal, London, and J T A Walker, New York

Annals of Surgery, Philadelphia

December LXII No 6 pp 641 776

13 *Hemangioma of Spinal Cord S Cobb Boston
14 *Conservative Treatment of Intrinsic Cancer of Larynx by Thyrecricotomy or Thyrotomy, Report of Three Cases G D Stewart, New York
15 Suppurative Pericarditis G B Rhodes, Cincinnati
16 Abdominal Skin Flap in Radical Amputation of Breast C. A Elsberg, New York
17 *Splenectomy for Splenic Anemia in Childhood and for Splenic Anemia of Infancy H Z Giffin, Rochester, Minn
18 Primary Sarcoma of Gallbladder, Report of Case N B Carson and G M Smith St Louis

19 Resection of Cardia for Carcinoma Report of Cases W Meyer, New York
20 Obturator Hernia Report of Case C G McMahon, Copperhill Tenn
21 Prostate Gland in Old Age O S Lowsley, New York.
22 Giant Cell Tumors of Tendon Sheaths Report of Cases F Beckman, New York
23 *Fascia Transplantation in Treatment of Old Fractures of Patella D B Phemister, Chicago
24 Case of Decompression Under Local Anesthesia H P Cole, Mobile Ala
25 *Action of Radium on Transplanted Tumors of Animals F C Wood and F Prime, Jr New York

13 **Hemangioma of Spinal Cord**—Six reported cases and one personal case are analyzed by Cobb He says that the onset is usually slow, the paralysis not reaching its maximum for days or even months In two instances weakness of the feet was the first symptom, preceding paralysis of the legs by two weeks and by six months, in another, weakness of the right hand preceded the paralysis by two days In three of the cases pain came on suddenly but was not followed by the paralysis for five days in one, two weeks in another, and five months in the third A history of recurrent attacks after partial recovery appeared twice, while in four of the cases a single attack seemed sufficient to cause a permanent paralysis Four of the histories note an onset with flaccid paralysis, described as "weakness," the spastic symptoms not coming on for a considerable time—two months, six months, and fourteen years in three of these, while in the fourth the patient died in the flaccid state In short the symptomatology appears to be that of hemorrhage into the spinal cord or canal, generally recurrent if the patient survives the first paralysis Death in two of the cases was due to respiratory failure, in two to decubitus, and in two others to operation, while one has no clinical history, and the other patient is alive at present

Pathologically it is striking that in all of the cases the tumor involved the pia, in two the dura was also involved, and in two the cord substance was invaded The level of the angiomas on the cord is variable, three were lumbar, one cervical, one cervicodorsal, two dorsal, and one was found on the corda equina The tendency seems, therefore, to be toward a low position In two of the cases there was widening of the vertebral canal in the region of the tumor One of the most interesting features of Cobb's case is the occurrence of nevi on the skin in the same metamere as the angioma of the cord, that is to say, the membranes of the spinal cord in the vicinity of the tumor are supplied by the same nerve roots as the skin on which the nevi are found

14 **Intrinsic Cancer of Larynx**—According to Stewart laryngofissure is applicable to over one third of all cases of laryngeal cancer It is exclusively adapted to endolaryngeal cancer in its incipient stages A circumscribed movable tumor near the center of one vocal cord represents the most favorable case for laryngofissure The operation is sometimes extended to cancer still movable but which has attacked the anterior commissure, the ventricle or the subglottic space Laryngofissure is absolutely contraindicated in all cases in which the arytenoid cartilage and the interarytenoid fold are involved also in other extrinsic cancer It is not often enough performed and is sometimes attempted too late Its extent should be absolutely determined beforehand, otherwise one should be prepared for a semi or complete laryngectomy The mortality is small—0.2 per cent Speech is always possible, often satisfactory

17 **Splenectomy for Splenic Anemia**—Because infancy is a transition period during which a reversion to the fetal type of hemopoiesis is likely to occur, Giffin maintains that the normal lymphocytosis of the infant's blood and its decided reaction to various toxic agents is always to be taken into account in the consideration of any case of infantile anemia The adult form of splenic anemia as it occurs in children and the splenic anemia of infancy have many characteristics in common, and also certain distinctive differences, but splenectomy has been performed in only a few instances of the adult form of splenic anemia occurring in the first decade of life One case of this character is reported by Giffin A review of the literature of the splenic anemia of infancy (anemia pseudoleukemica of von Jaksch) shows that splenectomy has been performed in four instances of severe types of the disease, with marked immediate improvement.

23 **Fascia Transplantation in Old Fracture of Patella**—In the case reported by Phemister after the greatest possible apposition of the fragments of the patella had been accomplished, there still remained a defect of 1 inch This defect was bridged over by a free transplantation of the fascia lata It was sutured above to the quadriceps, below to the tibiopatellar tendon, and at the sides to the lateral ligaments of the joint Aseptic wound healing occurred

25 **Action of Radium on Transplanted Tumors**—According to Wood and Prime three factors only are important in the action of radium on tumors, time of exposure, amount of radium element, and distance between the radium tube and the tumor tissue The removal of suitable filters of the larger part of the beta rays diminishes proportionately the effect of the radium, but the effect of the gamma rays is in accordance with the same general law which governs the beta rays Sublethal exposures slow the growth of tumor cells for some time, while still shorter treatments seem to stimulate the cellular activities Experiments show that when only pure gamma rays are used the necessary exposure is eight times as long as that required when the gamma and hard beta rays combined are employed, but as the latter are largely absorbed by 1 cm of tissue, the gamma rays alone must be used for all deep work The effect of radium radiations on tumor cells in vitro is less marked than is that on isolated cellular elements This explains the fact that an exposure which will destroy a small metastatic nodule in man is quite ineffective in the case of a well vascularized primary carcinoma

Archives of Internal Medicine, Chicago

December XVI No 6 pp 893 1073

26 Large Personal Factor in Blood Pressure Determinations by Oscillatory Method E S Kilgore, San Francisco
27 Analysis of Dr Kilgore's Paper J Erlanger St Louis
28 Quantitative Determination of Personal Factor in Blood Pressure Measurements by Auscultatory Methods E S Kilgore H K. Berkley A H Rowe and W H Stabler San Francisco
29 Fractional Method of Blood Pressure Determination — Contribution to Study of Blood Pressure in Cardiac Arrhythmias E S Kilgore, San Francisco
30 *Clinical Studies on Respiration Acidosis of Chronic Nephritis F W Peabody Boston
31 *Action of Vagi on Heart in Paroxysmal Tachycardia. G C Robinson St Louis
32 *Carbohydrate Metabolism in Hyperthyroidism as Determined by Examination of Blood and Urine. H R Geyelin, New York
33 *Production of Atrioventricular Rhythm in Man After Administration of Atropin F N Wilson Ann Arbor Mich
34 *Case in which Vagus Influenced Form of Ventricular Complex of Electrocardiogram F N Wilson Ann Arbor Mich
35 Oidiomycosis in California with Special Reference to Coccidioidal Granuloma. E C Dickson San Francisco
36 Case of Acute Miliary Tuberculosis Showing Blood Picture of Acute Myelogenous Leukemia M Marshall Ann Arbor Mich
37 Uric Acid Solvent Power of Urine Containing Hexamethylenamin (Urotropin) as Compared with that of Normal Urine H D Haskins Portland, Ore.
38 *Oxydase Reaction on Blood Smears F A. Evans Baltimore

30 **Acidosis of Chronic Nephritis**—In mild cases of uncomplicated chronic nephritis, in which the phenolsulphonephthalein test shows a normal renal function, Peabody claims that there is usually little or no acidosis More advanced cases showing moderate or even extreme decrease in the phenolsulphonephthalein output, show an acidosis by the "alkali tolerance' test, but there may be no fall in the alveolar carbon dioxid tension Only in very advanced cases is the acidosis usually so marked as to cause a decrease in the alveolar carbon dioxid tension Most cases in which the alveolar carbon dioxid tension is below normal show a phenolsulphonephthalein output which is below 10 per cent in two hours On the other hand cases showing a phenolsulphonephthalein output of traces' or less may have a normal alveolar carbon dioxid tension The acidosis of chronic nephritis Peabody believes is due to a retention resulting from inefficient renal excretion Acidosis is probably a very constant feature of uremia but only in a limited number of cases is it of sufficient grade to cause definite

clinical symptoms analogous to those seen in advanced diabetes In these cases the symptoms caused by the acidosis may be relieved by alkali therapy

31 **Action of Vagi on Heart in Paroxysmal Tachycardia**—Robinson reports observations on two cases of paroxysmal tachycardia in which the rapid heart rate could not be influenced by vagus pressure These two cases are representative of those in which vagus pressure fails to abolish the tachycardia The cause of the ineffectiveness is not, however, any permane gement of diovagal
inhibitory mecham rate was
slowed by vagu paralysis
with atropin idence that
the influer fferent parts
of the depends on
their

those
the
gm of
than in any
a return to
glucosuria
persisted for
distinct lowering
by alimentary and
cases there was an

or over, Geyelin says,
a Hyperglycemia is a
hyperthyroidism In the mod-
this disease, it occurs in 90 per
In mild cases or during latent
d-sugar values are commonly obtained
ier spontaneous or alimentary (100 gm of
, is an equally constant symptom, and encountered
re often than has been observed hitherto Alimen-
hyperglycemia (two hours after 100 gm of glucose)
d alimentary glucosuria are found not uncommonly in the mild cases, whereas hyperglycemia (fasting or postprandial) and spontaneous glucosuria are usually absent As compared with normal individuals, there is a slower return to fasting blood-sugar values after doses of glucose have been given This is more marked in proportion to the severity of the case Thyroid extract when fed to patients with myxedema, who previously showed normal blood-sugar values, produces hyperglycemia similar to that found in cases of hyperthyroidism The diagnostic significance of lowered tolerance to carbohydrates in hyperthyroidism is of great importance The finding of glucosuria and hyperglycemia in other pathologic conditions, such as fever, alcoholism asphyxia, neurasthenia and in the various endocrinopathies, somewhat nullifies its significance, but if these conditions can be excluded, its presence is highly suggestive

33 **Atrioventricular Rhythm in Man**—It was found possible by Wilson to produce A-V rhythm in a large proportion of young persons by vagus stimulation during the intermediate period between the hypodermic injection of atropin and the appearance of its maximum effect In three cases, one normal and two cardiac cases, A-V rhythm appeared spontaneously under this drug In none of the individuals of the present series who had apparently normal hearts was it possible to produce A-V rhythm before the drug had been given This was possible, however, in two patients with cardiac disease It was not possible to produce A-V rhythm after the atropin effect had reached its maximum in any of the subjects investigated The special susceptibility of the heart toward A-V rhythm during the early action of atropin is due to a selective action of this drug on the vagus terminations in the A-V node, in that it paralyses these before it paralyses those in the sinus node In two pathologic cases the A-V rhythm which appeared after atropin exhibited unusual features Three patients complained of marked palpitation as a result of simultaneous contraction of auricles and ventricles during A-V rhythm

34 **Ventricular Complex of Electrocardiogram**—The case orted by Wilson showed at different times four distinct hms and at least three types of ventricular complexes the first rhythm the ventricular complexes were normal l the pace-maker was in the normal location In the cond rhythm the ventricular complexes were characteristic of a block in the right branch of the His bundle These abnormal ventricular complexes were usually but not always sociated with an atrioventricular rhythm originating in the r levels of the junctional tissues Both the A-V rhythm the abnormal ventricular complexes could be produced vagus stimulation and when spontaneously present could abolished in favor of the normal rhythm by the adminis-ation of atropin Rhythm 3 appeared during the early stages of atropin action and at no other time The ventricular complexes of this rhythm were abnormal and suggested a block in the left branch of the His bundle The pacemaker was situated in the region of the A-V node Ventricular complexes transitional in form between those of the normal rhythm and those of Rhythm 3, occurred, however, while the pace-maker was situated at the sinus node It is probable therefore that the abnormality of the ventricular complexes of Rhythm 3 did not depend on the abnormal site of origin of this rhythm Rhythm 4 was a paroxysmal tachycardia which originated at the same point as Rhythm 3 and which was associated with the same type of ventricular complex The various changes in the mechanisms of the heart beat observed in this case occurred, in a great measure at least, in response to changes in vagus control

38 **Oxydase Reaction on Blood Smears**—Evans summarizes his method as follows 1 Use blood smears as fresh as possible and certainly not more than six weeks old 2 Fix six to eight hours in the vapor of 4 per cent formaldehyd solution in a closed jar 3 Stain eight minutes in a saturated aqueous safranin or a 2 per cent aqueous pyronin solution, wash, and dry immediately 4 Examine the smear and become familiar with the appearance of the various cell types with the nuclei thus stained 5 (a) Put one drop of Solution 1 (less than three weeks old) and one drop of Solution 2 (less than four days old) on a slide, mount the smear in this and examine at once, or (b) Mount the smear film side upward on a slide and put Solutions 1 and 2 directly on the smear, watch the reaction with the low power objective progress to its height, and at the end of two minutes dry and examine with the high dry objective Evans has found this procedure a convenient and reliable method on blood smears for demonstrating the presence or absence of oxydase granules in many varieties of white blood cells, and by reason of the differentiation between cells of myeloid and lymphoid origin made possible, gives a preparation that is of great value in determining the status and origin of white blood cells of uncertain identity

Archives of Ophthalmology, New Rochelle, N Y

November XLIV, No 6, pp 611 705

39 Position of Sclerotomy with Especial Reference to Danger from Late Infection T H Butler
40 Ciliary Glands W C Finnoff, Denver
41 Malignant Uveitis Treated with Thyroid Extract J Bordley, Jr, Baltimore
42 Gram Negative Diplococci Occurring in Conjunctival Sac. R Blue, Chicago
43 Primary Tumor of Optic Nerve Successfully Removed, with Preservation of Eyeball, by Kroenlein Method A Knapp, Chicago
44 Case of Cyclical Third Nerve Paralysis G Groethuysen, Munich.

Arizona Medical Journal, Phoenix

November III No 11 pp 1 35

45 Relation of Cancer Research to Clinical Medicine W O Swee, Phoenix
46 Chronic Appendicitis in Contradistinction to Subacute Form C S Vivian, Humboldt
47 Cesarean Section Report of Two Cases A J Murrietta, Jerome
48 Surgical Indigestion A. L. Blesh, Oklahoma City

Arkansas Medical Society Journal, Little Rock

November XII No 6 pp 139 161

49 Why We Fail to Diagnose Tuberculosis at Proper Time. S E. Thompson, Carlsbad, Texas.
50 Visceroptosis M D Ogden Little Rock
51 General Anesthesia M G Daly Little Rock

Boston Medical and Surgical Journal

December 9 CLXXIII No 24 pp 867 904

52 Medical and Social Aspects of Syphilis of Nervous System A Post Boston
53 Examination and Prophylaxis for Syphilitic Patients and Their Families (To be continued) H M Wright, Boston
54 *Bladder Tumors in Young R F O Neil Boston
55 *Study of Kroenig s Isthmus in Pulmonary Tuberculosis. W C Klotz Los Angeles
56 Intussusception W E Ladd Boston
57 Some Uncommon Types of Skin Disease. A J Nute, Boston

December 16 No 25 pp 905 940

58 *Disinfection of Septic Joints F J Cotton, Boston
59 *Bacterin Treatment of Certain Chronic Pyogenic Dermatoses C C Dennie Kansas City, Mo and J H Bufford, Boston
60 Alopecia Syphilitica. D W Montgomery San Francisco
61 Examination and Prophylaxis for Syphilitic Patients and Their Families H M Wright, Boston
62 Estimate of Cost of Social Work in Connection with Examination and Treatment of Other Members of Families of Syphilitic Patients. M C Jarrett, Boston
63 Economic Facts of Syphilis Problem. D Gregg, Boston
64 Case of Fracture of Transverse Processes of Fifth Lumbar Vertebra L T Brown and W J Dodd Boston
65 Case of Dermatitis Medicamentosa W S Walsh Providence R. I.
66 Chemical Aid in Securing Spirocheta Pallida from Syphilitic Lesions H D Lloyd, Boston

54 **Bladder Tumors in Young**—Vesical tumors in children O'Neil says, are a very great rarity The great majority appear before the fifth year They are of the connective tissue type and are clinically and pathologically malignant, except in rare instances Difficulties of micturition are generally the earliest symptom, in the absence of stricture they should excite suspicion Straining is common Early diagnosis and operation offer the only hope of recovery

55 **Kroenig's Isthmus in Pulmonary Tuberculosis**—Klotz maintains that unless the disparity of the apical percussion field, as expressed in terms of Kroenig's isthmus is marked it does not necessarily point toward tuberculosis of the corresponding side, that such disparity is also of much less significance on the right side than it is on the left, and that in most instances the disparity of the apical percussion fields is simply due to anatomic changes, unrelated to tuberculosis

58 **Disinfection of Septic Joints**—The technic which Cotton emphasizes in the surgical treatment of infected joints may be summarized as follows Opening of the joint, irrigation for fifteen minutes (by the watch) with a full stream of 1 to 15,000 corrosive sublimate, a flushing out of the excess with salt solution, then a water-tight closure of the capsule by mattress and single sutures in such a way as to leave the synovial membrane cut edge to cut edge, as accurately as may be Usually the membrane is so swollen as to make this really possible The external wound is left wide open or nearly so, for the author says, real disinfection of the external soft tissues is not practicable After operation there may or may not be an effusion into the joint, if an effusion comes it goes again within one to three days, and is not accompanied by temperature or by any considerable discomfort. Cotton has not in these cases, with two or three exceptions, resorted to traction for the separation of joint surfaces There has seemed to be no pain factor constituting a clinical demand for such treatment, and no theoretical reason for it, for these joints show little or no spasm. About two dozen cases have been treated by this technic, excluding gonococcus cases, not less than fifteen of them representing infections by staphylococci or streptococci, the majority staphylococcus infections There have been two failures, one a punctured wound of the knee in a male adult. Regaining in the end a good leg The second case was a knee with an epiphyseal staphylococcic infection in a boy of 3, cleaned out and sutured, later the joint broke down and an ankylosis resulted

59 **Bacterin Treatment of Pyogenic Dermatoses**—Seventy cases were selected by Dennie and Bufford for the experiment acne vulgaris, thirty-five cases, furunculosis, twenty-one cases, folliculitis, fourteen cases The seventy cases were roughly divided into two groups, one of which was to receive only autogenous and the other stock preparations In both instances, however, the bacterins employed were made by the authors themselves No commercial products were used When the autogenous bacterins were made, a large amount was prepared and the excess used as the stock preparations An initial dose of not less than one hundred million and not over four hundred million killed organisms was given The last injection was often two billion The total number of doses rarely exceeded ten and the interval between was from four to ten days The administration of bacterins was governed by the local reaction at the point of injection If this reaction did not occur either at the first or any of the subsequent injections, a new preparation was made and administered The general reaction was usually so slight that it escaped the attention of the patient When there was an increase in the intensity or number of eruptive elements, the following dose was much smaller and was given when the untoward symptoms had subsided If the patient improved up to certain point and then remained at a standstill, a new bacterin was prepared and administered If the patient grew progressively worse after each injection of bacterin, this mode of treatment was discontinued

The best results were secured in furunculosis The action of bacterins in the treatment of sycosis was erratic, in one case of twenty years' duration in which external treatment had been faithfully used for five years and in which stock bacterins had been administered, autogenous bacterins were used with remarkable success On the other hand two cases were much aggravated by this form of treatment. The average number of doses administered in successful cases was, eight in acne, four in furunculosis and four in sycoses In nearly all cases the initial dose was two hundred million and the final, one to two billion killed organisms The most favorable interval between doses was found to be five days in acne, four days in furunculosis and seven days in sycosis

Bulletin of Johns Hopkins Hospital, Baltimore

December XXVI No 298 pp 391-422

67 *Diagnostic Value of Colloidal Gold Reaction Method of Preparation of Reagent. S R Miller, N D Brush J S Hammers and L D Felton, Baltimore.
68 *Case of Pulmonary Moniliasis in United States T R Boggs and M C Pincoffs, Baltimore
69 Mixed Tumors (Chondrofibro Epithelioma) of Choroid Plexus W H Burmeister Chicago
70 *Case of Heart Block Recovery E W Bridgman and J T King Jr Baltimore
71 Valuable Additions to Library of Johns Hopkins Hospital H A Kelly Baltimore.

67 **Diagnostic of Colloidal Gold Reaction**—This study confirms the conclusions advanced by Miller and Levy in 1914

68 **Case of Pulmonary Moniliasis**—With a negative family and personal history the patient whose case is cited by Boggs and Pincoffs applied for treatment on account of what she called a 'boil' in the left axilla, which had been present and gradually increased during the three months previous She had had little or no pain, nor had there been any discharge On examination a tumor was found in the left breast and the diagnosis of mammary carcinoma with axillary metastases was made The patient refused operation Eight months afterward a large fluctuating axillary abscess was incised and drained At this time there was no cough nor expectoration observed Four days later she was discharged and told to return for dressings This she was unable to do, and after five days at home she was admitted to the hospital During this interval she had developed a severe cough with profuse expectoration of a reddish gray material The patient was very ill, temperature 102 The left mammary

gland was larger than the right, and in its lower right quadrant there was a hard, irregular mass, this was freely movable over the underlying tissues and the skin was not adherent to it The nipple was not retracted and not apparently connected with the mass The remainder of the gland was of a firmer consistency than normal The right breast was normal About 5 cm from the left arm on the anterior axillary border there was a sinus-opening about 1 5 cm in diameter, the sinus tract extended upward and posteriorly for about 4 cm There was a slight sanguineous discharge from it The infraclavicular and supraclavicular fossae were obliterated by brawny edema of the tissues, which were reddened and hot to the touch The shoulder and upper arm were diffusely swollen and there was some edema and cyanosis of the forearm and hand At the end of the third week after a profuse hemorrhage from the sinus, without any hemoptysis the patient died

In the tissues examined the authors found an organism in close relation to *Monilia candida* (Bonorden) They have adopted the generic name *Monilia* as distinguishing it from *Endomyces albicans* which it somewhat resembles, ascosporulation being an accepted determining feature of the latter genus Their *Monilia* is morphologically indistinguishable from that described by Ashford for tropical sprue The organism is actively pathogenic for rabbits, intravenous injection producing disseminated lesions in the kidney cortex, intestinal lymph follicles and liver, as well as in the striped and unstriped muscles, death occurring in one to eight days Intratracheal injection in rabbits led to localized pneumonia-like lesions in the lungs with pleurisy and late involvement of other viscera The organism has been recovered in pure culture from the experimental lesions of rabbits

70 Case of Heart Block—The case reported by Bridgman and King is that of a negro man, with complete heart block, Adams-Stokes syndrome, and a strongly positive Wassermann reaction, who, after antisyphilitic treatment for a period of less than five weeks, developed practically normal conduction time and became symptomatically well, the Wassermann reaction being negative on two occasions four months later Of special interest was the appearance of electrophonograms which show auricular sounds during complete block, and after normal rhythm had been resumed The time of the auricular sound is just after the onset of auricular systole, and no sound is apparent at the end of auricular systole

California State Journal of Medicine, San Francisco

December XIII, No 12 pp 455 496

72 Amputations and Their After Treatment L Eloesser, San Francisco
73 Clinical Records E S Kilgore, San Francisco
74 Application of Anoci Association to Obstetrics C L Hoag, San Francisco
75 Treatment of Congenital Syphilis H Lisser, San Francisco
76 Routine Roentgenographic Demonstration of Gallstones C W Lippman, San Francisco
77 Use of Roentgen Ray as Aid in Surgical Diagnosis F R Fairchild, Woodland
78 Which Is Preferable Operation, Perineal or Suprapubic Prostatectomy? C R Harry, Stockton
79 Twilight Sleep M Cosgrove, San Francisco
80 Glandular Polypus of Colon G H Aiken, Fresno

Cleveland Medical Journal

October, XIV, No 10, pp 631 712

81 Fight Against Tuberculosis in Cleveland R H Bishop, Jr, Cleveland
82 Opportunities for Social Service at Cleveland City Hospital H Wright, Cleveland
83 Importance of Prophylaxis in Care of Infants and Young Children C W Wyckoff, Cleveland
84 Possibilities of Future Development in Service Rendered by Hospital to Community A R Warner, Cleveland
85 Prevention of Systemic Diseases Arising from Mouth Infections and Purpose and Plan of Research Institute of National Dental Association W A Price, Cleveland
86 Prevention of Blindness H L Leete, Cleveland
87 Problem of Feebleminded, Insane and Epileptic H H Drysdale, Cleveland
88 Treatment for Crippled Children at Rainbow Hospital, Cleveland A Patton, Cleveland
89 Hospital and Public Pocket Book E Street, Cleveland

Delaware State Medical Journal, Wilmington

September, V, No 10 pp 1 26

90 Use of Liquid Chlorin for Sterilizing Water J A Kienle, Wilmington
91 Retrorectal Infections C F Martin, Philadelphia

Journal of Cutaneous Diseases, New York

December XXXIII, No 12, pp 787 866

92 Precancerous Dermatoses, Sixth Case of Type Recently Described J T Bowen, Boston
93 Pathology of Syphilis J A Fordyce, New York
94 *Comparative Toxicity of Various Preparations of Mercury J F Schamberg, J A Kolmer and G W Raiziss, Philadelphia
95 Cutaneous Lesion Caused by New Fungus (Phialophora Verrucosa) C G Lane, Boston
96 *Heliotherapy in Diseases of Skin, Report of Cases H P Towle, Boston

94 Toxicity of Mercury—It is stated by the authors that the toxicity of the various mercurial salts is directly proportionate to the amount of pure mercury contained, and that the inorganic salts, as represented by mercuric chlorid, are no more toxic than the numerous organic combinations that are commonly employed The differences in the molecular structure of the mercury compounds tested by the authors were found to be of relatively little importance as affecting their toxicity Mercuric chlorid was fatal, on the average, in intravenous doses above 2 mg per kilogram of body weight, administered intramuscularly it was fatal on the average, above 6 mg per kilogram of body weight The average relationship as to the toxicity between the intravenous and intramuscular administration of mercury, in general, was about 4 to 1

The authors found that the insoluble preparations such as gray oil, calomel and the salicylate of mercury are absorbed at the rate of a little over 1 per cent of the injected amount per day Even at the end of six or seven weeks, almost 50 per cent of the mercury of insoluble preparations may be unabsorbed at the site of the injection, hence the injection of the usual doses of insoluble mercurial compounds at weekly intervals, must invariably lead to accumulation of the drug in the tissues It is advised that insoluble mercurial injections be given only by the skilled physician after careful consideration of the dose and of the intervals of administration Mercury has a great affinity for the cells of the kidney, and this organ is one of the earliest involved in mercurial intoxication, hence during the intensive treatment with mercury, the necessity of careful examination of the urine from time to time should be emphasized Calcification of the degenerated tubular cells has been found within forty-eight hours after the administration of mercury, and always occurs in severe mercury nephritis, irrespective of the salt administered or the route of injection

96 Heliotherapy in Diseases of Skin—So far as the series of a case cited by Towle shows, the lesson is that graded exposures of the body to the rays of the sun promote general bodily vigor, discourage the growth of bacteria, decongest inflammation, encourage resorption of pathologic exudates and of scar tissues, stimulate epidermization, cellular multiplication and reconstruction, and, above all, tend to relieve pain Several varieties of pus-forming affections were treated by heliotherapy, invariably with positive results

Lancet-Clinic, Cincinnati

November 20 CXIV No 21, pp 445 464

97 Report of Neurologic Department of Cincinnati Hospital from 1894 to 1914, Inclusive R Ingram, Cincinnati
98 The Crystalline Lens System and Its Relation to Cataract Formation L Stricker, Cincinnati

November 28, No 22 pp 465 484

99 Etiology and Treatment of Heart Disease P D White, Boston
100 Four Cases of Acute Abdomen Four Necropsies, Four Surprises J F Baldwin, Columbus
101 Principles of Harelip and Cleft Palate Surgery J R Eastman, Indianapolis
102 Psychotherapy of Inoperable Cancer E O Kane, Kane, Pa
103 Rest Most Important Single Factor in Treatment of Tuberculosis L B Morse, Hendersonville, N C

Maine Medical Association Journal, Portland

November, VI, No 4, pp 169 192

104 Senile Heart H R Farris, Oxford
105 Blood Pressure and Some of Its Clinical Values C H Witherell Oakland

Medical Record, New York

December 4, LXXXVIII No 23 pp 945 990

106 Milk Borne Septic Sore Throat—New Health Problem H M Biggs New York
107 Some of Automatic Balances in Human Body R. C Newton, Montclair N J
108 Women in Medical Profession M Glasgow, New York
109 Fermented Milk and Whey in Infant Feeding A E Mucklow, Brooklyn
110 Connellan King Diplococci Infections of Throat with Especial Reference to Rheumatism Report of Cases J J King, New York
111 Rectal Operations. W F Burrows and E C Burrows New York

December 11 No 24 pp 991 1032

112 Case of Spontaneous Pyopneumothorax Complicated by Hydropneumopericardium or Pyopneumopericardium A Meyer New York.
113 Case of Auricular Flutter Accompanying Acute Endopericarditis S Neuhof, New York.
114 Five Teaspoons Removed from Intra Abdominal Abscess After Perforating Small Intestine B T Tilton, New York.
115 Ideal Nasolaryngeal Inhaler C E Dressler and A Kahn, New York
116 Causes and Cure of Infective Diseases of Kidneys D B McCartie, Newark, N J
117 Study of Psychoses Associated with Cerebral Arteriosclerosis J Nack Washington D C
118 Gastro Albumorrhea in Gastric Cancer M Kahn and I Jacobowitz New York
119 How to Blow the Nose E H Griffin, New York.

Military Surgeon, Chicago

November XXXVII No 5 pp 411 522

120 Asphyxiating Gases in Warfare. G A Lung, U S Navy
121 Brain Surgery in War J Frank, Chicago
122 Transportation of Ambulance Companies E C Jones, U S Army
123 An Endeavor to Improve On First Aid Tag Now in Use in United States Army H H Smith U S Army
124 Real Medical Reserve Corps G M Blech Chicago
125 Syphilis as Cause of Mental Disease in Military Service L L. Smith U S Army

New York Medical Journal

December 4 CII No 23 pp 1121 1168

126 Arteriosclerosis as Cellular Disease L. F Bishop New York
127 Prostatisme Sans Prostate. (To be continued) A Randall Philadelphia
128 Bollinger Case H J Haiselden Chicago
129 Puerperium J O Arnold Philadelphia.
130 Duodenal Ulcer S F Mullins, Danbury, Conn.
131 Syphilis of Cardiovascular and Renal Systems J H Barach Pittsburgh.
132 Case of Persistent (Eleven Years) Gonococcus Infection. M. Zigler New York.
133 Gastro Enterostomy J B Haeberlin, Chicago

December 11 No 24 pp 1169 1216

134 History of Pellagra. C H Lavinder, Ellis Island
135 Epidemiology of Typhus J F Anderson New Brunswick, N J
136 Typhus in Serbia. J Rudis-Jicinsky Chicago
137 Prostatisme Sans Prostate. A Randall, Philadelphia
138 Dislocation of Semilunar Bone Report of Case E L Bebee Buffalo
139 Artificially Fed Infants I H Goldberger New York.
140 Nontoxic Antiseptic. D H Stewart, New York.
141 Diabetes L. H Levy New Haven Conn
142 Chauffeur s Knee G F Boehme Jr New York.

December 18 No 25 pp 1217 1264

143 Maternity Insurance. L. K. Frankel New York
144 Soluble Radium Salts in Organic Nervous Diseases A Gordon Philadelphia.
145 Roentgen Ray Diagnosis of Gastric Lesions J W Squires Charlotte N C
146 New Tonsil Depressor J H Heacock New York.
147 Treatment with Mixed Vaccines A A. Thibaudeau Buffalo
148 Retroversion of Uterus A N Clagett, Chicago
149 Allen Treatment in Diabetes Mellitus A Bookman New York.
150 Weight Increase. R H Rose New York.
151 Tetany in Adult Following Poisoning from Ergot. H W Emsheimer New York

Old Dominion Journal of Medicine and Surgery, Richmond, Va

November XXI No 5 pp 183 226

152 First Aid Conference. J C Bloodgood Baltimore
153 Three Pseudonyms of Early Tuberculosis F H. Smith Abingdon
154 Obstructive Hyperemia as Substitute for Irrigation and Packing in Certain Infections M P Rucker Richmond.
155 Diphtheria Diagnosed Therapeutically O C Brunk Richmond

Ophthalmic Record Chicago

November XXIV No 11 pp 547-600

156 Ocular Phenomena Accompanying Three Cases of Gastro Intestinal Disorder H Woods Baltimore
157 Iritis Due to Influenza W Reber, Philadelphia
158 Systemic Diseases Affecting Ocular Tissues F Brawley Chicago
159 Relations of General Diseases to Ophthalmology C P Small Chicago
160 Operation for Secondary Cataract A S Green and L. D Green San Francisco
161 Congenital Aphakia with Microcornea E Adams Chicago

Pennsylvania Medical Journal, Athens

November XIX No 2 pp 65 148

162 Public and Medical Profession, Square Deal H. B Favill, Chicago
163 *Treatment of Fractures Lost Art J B Roberts Philadelphia
164 Treatment of Complicated Fractures and Present Opinion of Operative Treatment J B Lowman Johnstown
165 *Rectal Anesthesia in Thyroidectomy W Lathrop, Hazelton
166 *Heart of Athlete Its Prospect and Protection R. N Willson Philadelphia.
167 Evil Effects of Delayed Operation in Malignancy C B Longenecker, Philadelphia
168 *Report of Commission on Cancer J M Wainwright Scranton
169 Syphilis of Nose and Throat C P Grayson Philadelphia

163 and 165 Abstracted in The Journal, Oct 16, 1915, pp 1399 and 1400

166 and 168 Abstracted in The Journal, Oct 9, 1915, pp 1304 and 1303

Public Health Journal, Toronto

November VI No 11 pp 533 590

170 Medical Profession and War Cancer Problem W H B Aikins Toronto
171 Duty of City to Child C S Walters Hamilton
172 History of Organization of Babies Dispensary Guild, Hamilton J H Mullen Hamilton
173 Scope and Function of Medical Staff of Babies' Dispensary Hamilton. W L Cody Hamilton
174 Possibilities of Women's Work in Relation to Babies' Dispensary Hamilton H. M W Smith Hamilton
175 Opportunities of Medical Health Officers W H Hattie, Nova Scotia.
176 Immigration of Mentally Unfit J D Page Quebec.

Texas State Journal of Medicine, Fort Worth

November XI No 7 pp 361 412

177 Drainage of Peritoneal Cavity W W Grant, Denver
178 Intestinal Paresis with Special Reference to Postoperative Complications F W Parham New Orleans.
179 Anatomy and Physiology of Colon from Surgical Standpoint K. H Aynesworth Waco
180 Relation of Appendicitis and Duodenal Ulcer C W Flynn, Dallas
181 Sliding Hernia of Colon. R. W Knox, Houston
182 Peritoneal Adhesions, Preoperative and Postoperative T J Bennett and Z T Scott, Austin
183 Use of Fascia in Plastic Mastoid Work. E R Carpenter, El Paso
184 Important Symptoms which Require Labyrinthine Operation Report of Cases J W Head, Fort Worth
185 Two Cases of Labyrinth Disease with Operations J H Foster Houston
186 Splanchnoptosis C. A L. Reed Cincinnati.

Washington Medical Annals

November XIV No 6 pp 297 383

187 Scarlet Fever Morbidity and Fatality H H Donnally, Washington D C
188 Case of Hereditary Syphilis M A Reasoner, U S Army
189 Evolution of Man in Light of Recent Discoveries and Its Relation to Medicine. A Hrdlicka, Washington D C
190 Two Cases of Spastic Paralysis R. F Dunmire, Washington D C.
191 Rectal Examinations During Labor P Willson Washington D C
192 Feeding the Sick Well and Economical Feeding P S Roy Washington D C.
193 *Case of Boric Acid Poisoning P Willson Washington, D C
194 Nitrous Oxid and Oxygen in Obstetrics J A Talbott Washington D C
195 Case of Amputation of Right Upper Extremity Including Clavicle Scapula and Humerus G T Vaughan Washington, D C
196 Case of Congenital Visceral Syphilis B M Randolph, Washington D C
197 Why Members of Medical Profession Should Receive Higher Compensation Than Other Professions and Scientific Workers G H Heitmuller Washington D C

193 **Case of Boric Acid Poisoning**—A baby 7 weeks and 6 days old was given about 3 ounces of a saturated solution of boric acid instead of boiled water Shortly after this the baby was nursed but vomited during the nursing, so that this was discontinued and 3 more ounces of the boric acid solution were given This was in the afternoon In the evening

the baby had many copious movements which soon became nothing but clear, jelly-like mucus The vomiting and purging continued for about thirty-six hours, gradually decreasing in severity The day following the administration of the poison there was a little blood in the movements and once a considerable stain in the vomitus The baby refused to nurse and rapidly lost weight There was no fever So far the picture was one of an acute gastro-enteritis of moderate severity, from a chemical irritant Two days after the first ingestion there appeared a slight miliary eruption on the neck, chest and back The disease ran its course rapidly and the peeling was completed in about ten days The baby rapidly regained a normal condition

---

FOREIGN

Titles marked with an asterisk (*) are abstracted below Single case reports and trials of new drugs are usually omitted

Brain, London

July, XXXVIII, Parts I II, pp 1 190

1 Hughlings Jackson on Aphasia and Kindred Affections of Speech H Head

British Journal of Children's Diseases, London

November, XII, No 143 pp 321 352

2 Congenital Heart Block T R Whipham
3 *Occurrence of Acidosis in Children E C Williams
4 Case of Primary Bronchial Diphtheria W M Smith
5 Two Cases of Lymphangioma of Conjunctiva E M Maxwell

3 **Occurrence of Acidosis in Children** —Williams has analyzed the symptoms in thirteen cases Of these cases five occurred in boys, the remainder being girls All the children were under 11 and over 3 years of age Three patients presented on admission symptoms suggestive of meningitis, but on examination of the cerebrospinal fluid, which was under considerable pressure, showed no cytologic changes or organisms, examination of the urine, however, showed the presence of acetone and diacetic acid in varying degrees Two cases of mussel poisoning (mytilotoxin) and one case of ice-cream poisoning showed marked acidosis In the two cases of mussel poisoning nervous symptoms were predominant, whereas in the ice-cream poisoning there was pyrexia with great remissions of temperature In one patient acidosis preceded pneumonia (for seven days) and in another patient the acidosis occurred during the course of a pneumonia, and in a third patient whose urine was found on admission to contain sugar, the sugar quickly disappeared, but the patient developed signs of pneumonia with acidosis, which were followed by an empyema In one case admitted in a practically moribund condition, the postmortem revealed suprarenal hemorrhage One patient sent into the hospital as dysentery suffered from vomiting, colicky pains in the abdomen, with blood and mucus, symptoms suggestive of an intussusception, the intense acidity of the urine and the quick response to treatment by alkalies showed the symptoms to be caused by acidosis due to some unknown cause A child admitted into the hospital drowsy and irritable, with a high temperature developed at the end of a week a systolic murmur The urine on admission was acid and contained acetones and diacetic acid (no salicylates were given), alkali treatment and glucose caused loss of drowsiness

Williams urges that it is important in all cases of doubtful origin in young children that the urine should always be carefully examined for diacetic acid and acetones, as well as for the *Bacillus coli* Treatment consisted of sodium bicarbonate in doses up to 1 dram hourly in an effervescent mixture, and potassium citrate, half a dram, with glucose, 1 dram, by rectum every four hours

British Medical Journal, London

November 27, II, No 2865 pp 769 800

6 Spinal Injuries of Warfare G Holmes
7 *Malignant Tumor of Kidney R J Willan
8 *Easy Method of Detecting S Pallida and Other Spirochetes A C Coles
9 Simple Method for Cultivation of Anerobic Organisms L Dimond
10 Treatment of Wound Infections by Antiseptics C A Morton

7 **Malignant Tumor of Kidney** —Excluding children, 63 2 per cent of the fifty-nine cases analyzed by Willan occurred between the ages of 45 and 65 Ten cases occurred in children under the age of 10, in each case the condition was sarcoma Of the 49 adult cases, 14 occurred between the ages of 45 and 55, a percentage of 28 5 Of the series 63 8 per cent were males In thirty-one instances the malignant growth affected the left side and in twenty-six the right side In two cases the side affected was not stated In seven cases of the series the actual onset symptom is not stated Of the remaining fifty-two cases, painless hematuria was observed in fourteen cases In ten cases the illness was ushered in by acute renal colic, while in ten other cases a painless swelling found in the flank was the first evidence of anything wrong, nine cases began with chronic pain in the flank, while five patients suffered from cachexia before any sign of malignant growth of the kidney became manifest In two cases there was increased frequency of micturition at onset, another went to his physician for a varicocele, while the remaining one had "swelling of the bowels" In eleven instances there had never been any pain before the case came under observation Either painless hematuria or the accidental discovery of a flank swelling, separately or in combination, led the patient to think there was something amiss

Hematuria is an important link in the chain when making a diagnosis of malignant disease of the kidney, this symptom was definitely present in twenty-four cases out of fifty-two, that is, in 46 per cent A renal swelling was present in forty-nine cases, in four cases it was definitely stated that no tumor could be palpated, while in six cases the records are incomplete Cachexia was an onset symptom in five cases In three cases there was a left-sided varicocele, in addition to a malignant renal tumor on the same side. Two of the patients had retention of urine due to clotting following painless hematuria, and in each case the physician was only called in when the patient had complete retention One case of sarcoma was complicated by persistent glucosuria, he did well after nephrectomy Several of the cases had chronic nephritis

8 **Method of Detecting Spirochetes** —Coles claims that the method which he has devised renders the detection of *S pallida* or any other spirochete as easy as that of the tubercle bacillus in sputum It depends on the following principles 1 That structures which are colored with a fluorescent dye—for example, eosin, fuchsin, fluorescein, etc—when examined on a dark ground, stand out prominently, while blue-stained structures are inconspicuous 2 That if the medium in which the red-stained organisms lie be of low refractive index, they are exceedingly conspicuous by dark ground illumination, and can be detected with a comparatively low power, but if mounted in balsam, cedar oil, parolein, or water, they are only seen with the greatest difficulty The method briefly consists in examining a film containing spirochetes, stained in the usual way with Giemsa or Leishman's stain, dry, not mounted in any medium, with dark ground illumination, using a dry lens of medium power

Dublin Journal of Medical Science

November III, No 527 pp 321-400

11 Royal College of Surgeons in Ireland and War F C Dwyer
12 Use of Salvarsan H C Smyth

Glasgow Medical Journal

November LXXXIV, No 5, pp 321-400

13 Case of Erythremia G H Clark.

Lancet, London

November 27, II, No 4813, pp 1173 1232

14 Common Intestinal Protozoa of Man C M Wenyon
15 *Recognition and Isolation of Meningococcus in Nasopharynx of Cerebrospinal Fever Contacts J McIntosh and W E Bullock
16 Double Episiotomy During Labor J Phillips
17 Nitrogen Balance in Diabetes Mellitus and Its Importance in Treatment P J Cammidge
18 Ophthalmic Notes in General Hospital in Egypt C W Wirgman

15 **Meningococcic Carriers** —Apart from the fact that the meningococcus presents no distinctive staining reactions, there are several other bacteria occurring in the throat which can

be differentiated from it only by complicated reactions, and perhaps not always even then After giving extensive trials to a number of different mediums the one which McIntosh and Bullock have found most-satisfactory is serum agar of the following composition nutrient 3 per cent agar, 3 parts horse serum, unheated 1 part. The nutrient agar should be neutral to phenolphthalein and made from beef broth On this medium the meningococci will grow with great rapidity, and after having undergone one or two subcultivations will live several weeks without further subculturing The authors are convinced that meningococcus carriers are less frequent than is generally believed, and given an easy, rapid and definite means of detecting the meningococcus in the nasopharynx, it should be possible to check an epidemic of cerebrospinal fever in any small community or body of men, namely, a military unit in which the movements of individuals are under control

Sei-I-Kwai Medical Journal, Tokyo

November XXXIV No 11 pp 53 58

19 *Primary Carcinoma of Liver M Okazaki
20 Case of Acute Pancreatitis T Tsuuno and S Takahashi.
21 Roentgen Ray in Surgery H Hida

19 **Carcinoma of Liver**—Okazaki examined the accounts of 721 postmortem cases in the pathologic laboratory of Tokyo Charity Hospital medical college and obtained twelve cases of primary cancer of the liver, 1 7 per cent Splenic enlargement was present in 41 7 per cent., ascites in 91 7 per cent., edema in 66 7 per cent , jaundice in 58 3 per cent The tumor almost always occurred in the right lobe and was either single or multiple. The dissemination through the liver was constant but in one case the tumor was limited to the right lobe. In nine cases out of twelve the liver was enlarged It was normal in one case and atrophied in two cases Metastasis was noticed in seven cases, seven cases also had a cirrhosis of the liver

Archives de Médecine des Enfants, Paris

October 1915 XVIII No 10 pp 517 572

22 *Origins of Sydenham s Chorea J Comby
23 Malformation of Skull and Face with Exophthalmos and Divergent Squint in Mother and Son (Dysostose cranio faciale héréditaire) O Crouzon
24 Another Family with Malformation of Skull and Face in Seven Members in Two Generations O Crouzon
25 Mongolian Blue Spot in Brazilian Children (La tache bleue mongolique a São Paulo) C Ferreira

22 **Multiple Origin of Chorea.**—Comby found evidence of syphilis in only seven of thirty-nine children with chorea, the skin tuberculin test was positive in twenty-four of the thirty-nine and there was a history of acute articular rheumatism in six, but there were evidences in eight that the heart had been touched All promptly recovered under two weeks' quiet in bed a cup of milk every two hours as the only food and arsenic pushed to the limit of tolerance in progressive doses for five days then beginning the series anew, keeping up the arsenic for nine days

Bulletin de l'Académie de Médecine, Paris

Nov 9 1915 LXXIV No 45 pp 509 528

26 *Tetanus Restricted to Nerves in Injured Limb (Une observation de tetanos localise precoce) S Pozzi
27 *Acute Nephritis in the Troops in Active Service. J Parisot and P Ameuille.
28 *Heliotherapy of the Wounded (Action biotique de la lumiere solaire cure solaire des blesses en hiver) M de Laroquette
29 *Local Treatment of Wounds with Horse Serum (Le traitement des plaies par le serum de cheval, quelques considerations sur son action et son mode d emploi) J Lignières (Buenos Aires)
30 Alcohol an Important Factor in Abnormally High Blood Pressure. (L alcoolisme cause d hypertension artérielle) C Lian

26 See Paris Letter Dec 11, 1915 p 2102

27 **Acute Nephritis Among the Soldiers on Active Service**—Parisot and Ameuille relate that 1 per cent of the soldiers in the base hospitals present evidence of acute nephritis of rapid development with large amounts of albumin but never any tendency to hematuria In some the onset of the nephritis was marked by extreme edema but under rest and dieting the storm entirely subsided in a week or two In other cases the symptoms suggested meningeal trouble or typhoid stomach derangement, but it proved to be the work of a latent uremia These cases, with 4 or 6 gm of albumin each day and early anuria generally terminated fatally within a few days In a third group of cases, there were no symptoms but fever and headache, and the discovery of the intense albuminuria was a surprise It subsided completely in a week while the fever also subsided The blood seemed to be sterile and agglutination tests were negative The cause of the nephritis was a mystery in all these groups The hypochlorite sterilization of the water could not be incriminated as this water was used only occasionally in making coffee the men having native wines to drink The typhoid inoculation six, eight or ten months before could not be responsible for the nephritis after such an interval Most of the cases were in warm weather, so abnormal chilling was not a factor The only plausible explanation seems to be that the stress of the campaign had rendered the kidneys more susceptible The urine should be examined for albumin during periods of physical and mental stress as regularly as the temperature is tested The course of the nephritis in his case seemed to be milder, the earlier treatment was instituted

28 **The Biologic Action of Sunlight.**—De Laroquette s study of plants kept in greenhouses with colored glass has convinced him that the manifestly favorable action of sunlight on the tissues is not due exclusively nor even mainly to the chemical rays Plants thrived in yellow light and did not thrive in blue light The luminous rays are most active and the yellow are the most active of all Exposure to the sun's rays in a greenhouse avoids chilling from wind while the heliotherapy proceeds undisturbed the glass filter not cutting off the effect. He urges that well-ventilated greenhouses should be utilized in the care of the wounded, graduating the glare with photographers' screens Yellow glass can be used at first, as this is less irritating When there is no sunshine, the exposures can be continued with artificial light

29 **Horse Serum in Treatment of Wounds**—Lignieres has been studying since 1905 the action of horse serum in treatment of wounds He tried it first on the horse and was amazed at the rapid healing under it He also discovered that serum drawn twenty-four hours after the first blood-letting had always a greater curative action than serum from the first This is due probably to the regenerating processes going on after the first blood-letting Carnot calls serum drawn in this way "hemopoietic serum" He advises keeping one or two horses for the purpose drawing 5 or 6 liters one day and the same amount the next day This can be repeated every fifteen or twenty days according to the demands Compresses are dipped in the serum thus derived without heating and are changed once or twice in the twenty-four hours If it is to be kept for some time or transported he advises adding phenol less than 0 5 per cent

Lyon Médical, Lyons

October 1915 CXXIV No 10 pp 313 344

31 The Food of the French Army (L'alimentation aux armées) G Mouriquand

November No 11 pp 345 376

32 *Semeiologic Importance of Modification of Tendon Reflexes Under Chloroform J Babinski and J Froment.

32 Summarized in these columns Dec. 11, 1915 p 2124

Paris Médical

Nov 13 1915 V No 27 pp 465-480

33 *Medical Geography in Serbia (Les fievres danubiennes Notes sur la constitution medicale endemo-epidemique serbe.) P Castou
34 Staff for Plaster Casts. (Appareils platres en staff) V Aubert
35 Ferrous Sulphate Test for Picric Acid in the Urine with Picric Jaundice A le Mithouard
36 Scrap of Shell in Tongue Without Reaction L Ferrand.

33 **Medical Geography in Serbia**—Gastou relates that in his recent experience with an ambulance corps in Serbia he

noticed that in the northern part of the country epidemics and diseases in general seemed to have a special character under the influence of the pathogenic microbes infesting the soil and water under local climatic conditions He discusses in turn the periodically recurring types of the regional fevers, the endemic septicemic and gastro-intestinal types, malaria, and other types suggesting Malta fever or kala-azar

Presse Médicale, Paris

Nov 22 1915, XXIII, No 57, pp 465-472

37 The Practical Application of Experimental Medicine H Roger

38 Refractometer in Diagnosis of Acute Meningitis from Cerebrospinal fluid (La refractometrie du liquide cephalo rachidien) A and A A Babes

39 Compass Technic for Localization of Foreign Bodies (Technique, observations et resultats de l'emploi du compas de Hirtz dans la localisation et l'extraction des corps etrangers) B Desplas and D Chevalier

Deutsche medizinische Wochenschrift, Berlin

Oct 21, 1915, XLI, No 43, pp 1265 1296

40 *Plastic Operation on the Thyroid Cartilage Corrects Consequences of Paralysis of One Vocal Cord (Plastik am Schildknorpel zur Behebung der Folgen einseitiger Stimmbandlähmung) Payr

41 Improved Technic for Amputations (Verbesserung des Gritischen Amputationsstumpfes) M Wilms

42 Experimental Infectious Jaundice (Zur Aetiologie der Weilschen Krankheit) Huebener and Reiter

43 Production of Immune Bodies by Various Typhoid Vaccines (Immunkörperbildung verschiedenartiger Typhusimpfstoffe) O Löwy

44 Old and New Problems in Regard to Tetany in Infants E Klose

45 *Simplified and Rapid Method for Determination of Albumin and Sugar in the Urine (Schnellmethoden zur quantitativen Bestimmung von Eiweiss und Zucker im Harn) E Lenk

46 Principles for Construction of Artificial Legs J Dollinger Commenced in No 42

47 Artificial Leg After Wladimiroff Mikulicz Amputation Gaugele

48 War and the Public Health (Krieg und Gesundheitsfürsorge) A Gottstein Commenced in No 42

November 4, No 45 pp 1325 1356

49 *Study of an Epidemic of Typhus Otto

50 *Vaccination Against Typhoid and Diagnosis of Typhoid in the Vaccinated (Typhusschutzimpfung und Typhusdiagnose) Hage and Korff Petersen

51 *Enlargement of the Spleen After Vaccination Against Typhoid (Impf Milzschwellung und Typhusdiagnose) C Hirsch

52 Treatment of Gunshot and Shell Wounds of the Chest (Zur Beurteilung und Behandlung der Brustschusse) W von Brunn

53 Search for and Removal of Projectiles (Das Aufsuchen und die Entfernung von Geschossen) C Schwenk

54 New Viewpoints in Surgery E Engel

55 *Chronic Pancreatitis M Einhorn (New York) Commenced in No 44

56 *Necessity for Individualizing in Infant Feeding (Das individuelle Moment in der Sauglingsernahrung) A Niemann

57 The Declining Birth Rate and the Medical Profession (Die Stellung der Aerzte zur Frage des Geburtenrückgangs) T Hoffa

40 **Plastic Operation to Correct Paralysis of Vocal Cord**—Payr gives an illustrated description of the technic with which he succeeded in curing a young man who had suffered for two years from the effects of unilateral paralysis of the recurrent nerve The voice is now permanently good

45 **Simple Tests for Albumin and Sugar in the Urine**—The albumin test is complete in ten and the sugar test in three minutes by Lenk's technic Albumin enzymes, etc , are adsorbed by negative substances like kaolin, charcoal, pulverized pumice stone, etc If these are mixed with the urine after addition of Esbach's reagent, as the particles settle to the bottom of the dish they carry the albumin down with them This proceeds more rapidly the heavier the substance He uses pulverized pumice-stone, this drops rapidly to the bottom of the dish and carries the albumin with it, so that in ten minutes the albumin is precipitated as completely as not until after twenty-four hours by the usual technic. The Esbach reagent is a mixture of 5 gm picric acid with 10 gm citric acid in 500 c c water His simplification of the Fehling test for sugar is to apply it to a single drop of the urine on a watch glass This shows in three minutes the characteristic changes in tint without waiting for it to occur in a larger amount of the fluid The minute details of these simplified tests are given

49 **Typhus**—Otto describes the measures taken in a large camp of war prisoners to stamp out typhus which was constantly being imported anew The measures were directed to "unlousing" the men, thorough soaping, bathing and shaving while the barracks were being washed out with hot 5 per cent. kresol soap solution, and their clothing and bed sacks were being disinfected with steam, and the straw filling burnt Before a man was admitted to the hospital he was bathed anew and examined for lice The hospital quarters were thus kept free from vermin and no contagion occurred in the hospital personnel, but some contact cases developed among the attendants in charge of the unlousing As there were only sixty-five cases in all, epidemiologic features could be studied with exceptional completeness

50 **Diagnosis of Typhoid in the Vaccinated**—This communication reports the conclusions from extensive, parallel application of the various diagnostic tests to determine their *reliability after antityphoid vaccination* They are to the effect that agglutination is of no use whatever under these circumstances, the deviation of complement is also useless soon after vaccination, and is never a reliable substitute for the agglutination test, the blood picture cannot be relied on until from four to six weeks after the last vaccination, but the urochromogen in the urine does not seem to be modified by the vaccination, so that Weiss' potassium permanganate test has the same diagnostic significance as under other conditions Typhoid bacilli were cultivated from the blood in ten of twelve cases, but only with repeated attempts in some

51 **Enlargement of the Spleen After Vaccination Against Typhoid**—Hirsch remarks that active immunization against typhoid may alone cause the spleen to enlarge temporarily

55 Practically the same as article in The Journal, July 10 1915, p 149

56 **Individualizing in Infant Feeding**—Niemann declares that the proportion of women who are unable to suckle their infants is certainly smaller than the percentage of infants who are unable to nurse or do not thrive on breast milk Attention has been concentrated hitherto on the preparation of the artificial food for such infants, and too little heed paid to the infants themselves Our premises as to infant feeding are based on averages, but the babe at the breast does not get an average milk but a particular milk from a particular woman at a particular time The milk comes out of the darkness and disappears into the darkness without anyone seeing it The child gets its food thus fresh and unmodified by air and light, which we know soon start destructive processes in the fat of milk even when the milk seems still fresh and sweet

The child gets varying amounts of milk from the breast at different times and the composition of the milk probably fluctuates from time to time This entails a variety in the infant's food which Nature evidently intends, but which is lacking in artificial feeding The better the care given the bottle baby, the greater the monotony in the regular amounts and in the composition of the artificial food given it, and Niemann queries whether this monotony may not be the cause or one of the causes why bottle babies do not thrive so well as the breast fed especially in institutions It seems to be impossible for institutions to show such fine specimens of artificially fed infants as are often raised on the bottle even in the homes of the poor Some variety in quality and quantity according to the individual needs at the time is certainly advisable for a certain proportion of infants at least

Niemann relates further experiences which demonstrate that certain infants thrive better on less water than others In combating a tendency to vomit, he has given quite young infants the usual milk mixture without the water, thus more like a thick soup, and the children thrived well on it The chart of one is given showing the regular increase in weight on half the usual amount of water During the fifth month the weight became stationary and increasing the amount of water did no good, but the development became normal again when the amount of the milk mixture was increased

Other children need even more than the ordinary amounts of fluid, Heubner has reported a case in which the child did not thrive on its mother's unusually concentrated milk until it was given the lacking water, in the form of tea It is our task to learn which infants need more and which less water The same applies to carbohydrates and fats

There must be constitutional factors at work Some infants react to a test dose of carbohydrates with reduced output of urine In some the same dose runs up the sugar content of the blood, while in others neither the diuresis nor the blood picture shows any modification Unfortunately, determination of these reactions is not practicable as a routine measure in general practice where they would prove of such assistance He says that fat is the most inconvenient element of the food, either too little or too much may lead to severe nutritional derangement The sensitiveness in regard to fat seems an individual property, and it persists the same throughout infancy He has encountered it both with and without signs of the exudative diathesis and has seen infants with the exudative diathesis in a pronounced form who bore fat well

In short, he remarks in conclusion no one diet formula will fit all infants or even one infant at all times The only secret of success in infant feeding is by study of what is attainable with a given food and a given infant And for this wide practical experience along these lines is the best guide Those without this will often be puzzled as to the right course to pursue, even with the most modern food mixtures at their disposal Those with sufficient experience get along with the simplest measures Pediatrists at the head of infant institutions generally give the preference to certain methods of feeding—sometimes methods introduced by themselves In their hands their method proves successful because they have had so much experience with it that they recognize the indications and contraindications for it and can interpret the results obtained and be guided by them in the management of the individual infant. In other hands the identical method may not accomplish as much Hence he adds it must be reiterated again and again that students and physicians can never be given opportunities enough to collect experience by their own observation in the line of infant feeding Only in this way will they become familiar with the indications for a particular method of infant feeding and be able to estimate the results obtained with it—all of which is simply indispensable in practice

Medizinische Klinik, Berlin

Oct 17 1915 XI No 42 pp 1147 1172

58 Treatment of Acute Intestinal Disease in the Troops on Active Service (Akute Darmerkrankungen im Feld und ihre Behandlung insbes mit Suprarenin) J Strasburger
59 Therapeutic Electropalpation (Ueber palpatorische Anwendung elektrischer Strome) M Kahane
60 Typhus in Camp of War Prisoners (Die Fleckfieberepidemie im Gorlitzer Kriegsgefangenenlazarett) W G Rondke
61 Nervous Affections in the Soldiers on Active Service. (Neurologisches wahrend des Feldzuges) L Sztanojevits
62 Serotherapy of Dysentery (Die Serumbehandlung der Ruhr) A. Klesk
63 Cherry Stones Accumulated in Man's Rectum 1 874 Removed J Falk.
64 Gins Modification of Neisser Technic Facilitates Showing up of Diphtheria Bacilli (Zum Nachweis von Diphtheriebacillen im Originaltupferausstrich) W Schurmann and E G Pringsheim
65 *Clinical Value of the Miostagmin Reaction in Diagnosis of Cancer A Balcarek

65 **The Miostagmin Reaction**—Balcarek studied the course of the case in connection with the miostagmin reaction in three cases of sarcoma and forty-three of cancer as also in 135 patients with various other affections the ordinary cases of a general medical hospital The response was negative in these 135 miscellaneous cases and negative also in the few cases of cancer displaying a tendency to scirrhus But it was distinctly positive with all the other cancer patients and gave the sole clue to successful treatment in a number of dubious cases which he describes in detail A positive reaction was obtained further in four cases of nephritis in the uremic stage in a case of pulmonary tuberculosis and in one of a valvular defect In these last two cases the test was made at the height of menstruation, which possibly may be the explanation of the puzzling positive reaction In a case of intercurrent pneumonia with cancer of the pancreas, the response was negative but veered to positive as soon as the pneumonia subsided Effusions and transudates did not always give a positive reaction with cancer when the serum findings were strongly positive

Münchener medizinische Wochenschrift, Munich

Nov 9 1915 LXII No 45 pp 1525 1560

66 *Treatment of Infectious Diseases by Substances Which Activate the Protoplasm (Ueber die unspezifische Therapie von Infektionskrankheiten) W Weichardt
67 *Venesection in Treatment of Hot Flashes, etc of the Menopause (Zur Behandlung der Ausfallserscheinungen) E Engelhorn
68 Intravenous Injection of Dilute Lactic Acid in Treatment of Blood Infection (Zur Behandlung der Blutinfektion) F Jessen
69 The By Effects of Neosalvarsan H E Kersten.
70 *Artery of Donor Slipped Directly into Recipient s Vein for Transfusion of Blood Sauerbruch
71 Bacillary Dysentery (Zur Klinik der Bazillenruhr) M Matthes
72 Night Blindness Among the Troops in the Field Paul
73 Naphthalin for Extermination of Lice F Lenz
74 Sexual Abstinence (Sammelforschung der Deutschen Gesellschaft zur Bekampfung der Geschlechtskrankheiten uber die Frage der sexuellen Abstinenz.) A Neisser
75 Care of Stump After Amputation (Kriegschirurgisches über den Amputationsstumpf) D P Janssen Commenced in No 44

66 **Nonspecific Treatment of Infectious Diseases**—Weichardt has continued his research on activation of the protoplasm by injection of small amounts of various substances such as the cleavage products of albumin or even simple salt solution The heart, for example, is stimulated to extra functioning by injection of a certain small amount of deutero-albumose, when a larger amount is injected, the temperature falls the respiration rate is retarded, and there is somnolency The phenomena observed are exactly like those with vaccine therapy of typhoid for instance The response is not at all specific, it occurs the same with typhoid vaccine, colon bacillus vaccine and various other substances It can be instructively studied with the kymographion and a number of tracings with this are reproduced, showing the much increased action of the isolated frog heart under the influence of a stimulating dose of albumose or salt solution

67 **Venesection for Climacteric Nervous Disturbances**—Engelhorn noted abnormally high blood pressure in certain cases of cardiovascular disturbances in women at the menopause This suggested that withdrawal of blood might aid in restoring the balance in the vasomotor system Hufeland (1839) extolled the advantages of venesection every six to twelve weeks during the menopause, and others since have commended it Engelhorn has applied it in a number of cases and the annoying 'hot flashes" sensation of heat and attacks of sweating and redness all subsided These results were the more striking as the women did not know the purpose of the constriction of the arm and puncture of the vein Analogous nervous phenomena are sometimes encountered at puberty, and evidently are due to the same deficit or perversion in ovarian functioning manifested by amenorrhea dysmenorrhea infantilism chlorosis or other disturbance In some cases of this kind after failure of other measures he has resorted to venesection with gratifying results He never draws more than 100 c c at a time but had occasion to repeat the venesection in a few cases

70 **Simplified Technic for Transfusion of Blood**—Sauerbruch isolates the radial artery of the donor and slips it into the recipient s median vein like a cannula He works the artery loose for a stretch of 5 or 6 cm and cuts it as far as possible from the elbow The distal stump is ligated the proximal left open and after about 1 c.c. of blood has flowed into a measuring glass and the time this required has been recorded the bleeding end of the artery is pushed for 1 or 2 cm into a slit in the vein By the size of the artery and the time-unit the amount of blood passing into the vein can be estimated It usually takes ten or twelve minutes for transfusion of from 120 to 200 c.c. of blood. The

artery is then drawn out, a ligature thrown around the upper part of the exposed section the free end is cut off and the skin sutured Sauerbruch has applied this method a number of times even in the field hospital The recipient reclines with his arm fastened to a small table The donor sits on a high chair so that he can place his wrist close to the other's arm The technic is so simple, he says that any practitioner can apply it An illustration shows the tip of the artery being pushed into the vein

Wiener klinische Wochenschrift, Vienna

Oct 28 1915, XXVIII No 43, pp 1153 1184

76 Improved Technic for Enhancing and Testing Virulence of Pneumococci etc, by the Use of Tissues Surviving Outside the Organism S Baecher
77 Artificial Light in Treatment of Pemphigus (Künstliche Hohensonne bei Pemphigus vulgaris) Brandweiner
78 Physical Examination to Detect Tendency to Epilepsy (Die Methoden der Kephaloskopie und Kephalometrie bei Epileptikern) M Benedikt
79 Devices to Aid in Overcoming Consequences of Wounds in War (Heilgeräte für Folgen nach Kriegsverletzungen) F Riedl (Federstreckapparat für Hand und Finger bei Radialislähmung) A Saxl
80 Device to Connect Garment with Electric Current or Portable Storage Battery the Electrowarmer (Neues Kälteschutzmittel) M Beck and H von Schrotter

Zeitschrift fur klinische Medizin, Berlin

1915 LXXXII Nos 1 2 pp 1 198 Last Indexed Sept 18 p 1065

81 *Retention of Salt Without Retention of Water (Organuntersuchungen sowie experimentelle Studien über anhydropische Chlorretention) I Leva
82 Dwarf Growth Probably Due to Disturbances in Internal Secretion (Nanosomie und innere Sekretion) M Levy
83 *Symptomatology and Diagnosis of Rheumatic Heart Block T v Podmaniczky
84 *Influenza Pneumonias (Beobachtungen bei kruppöser Pneumonie im Felde) Arneth
85 *Elimination of Certain Elements of the Urine with Liver Disease (Ausscheidung einiger Harnbestandteile bei Lebererkrankungen) W v Moraczewski and L Herzfeld
86 *Tests of Kidney Functioning with Orthostatic Albuminuria and in Nephritis in Children H Zondek
87 Epidemic Paratyphoid of Type A E Lehmann, Mäulen and Schricker
88 Immunity to Typhoid and Antityphoid Vaccination F Noack
89 *The Edema with Chronic Kidney Disease (Ueber das Brightsche Oedem) L Hess

81 **Retention of Salt Without Edema**—Leva describes the necropsy findings in two cadavers with normal kidneys and in twelve with heart or kidney disease or both, but without any tendency to dropsy The organs were found to contain two or three times the normal sodium chlorid content, and research on rabbits confirmed the possibility of extreme retention of salt without retention of water

83 **Rheumatic Heart Block**—The heart block occurred transiently in the course of acute articular rheumatism in one young man The attack came on suddenly, with dizziness, the radial and carotid pulse dropped to 32 while the pulse in the jugular vein was 94 at the same time The pulse was
gular The next day the pulse was 50, both
jugular beating together In a second case the
had had heart trouble for ten years since the
umatism T tral pulse was 40, while there
sation ein with a beat of 70 or
oms had grown gradually
tionary phase which had
ems to be total permanent
tic myocarditis

monia—Arneth gives the histories of
s of pneumonia with influenza bacilli in the
e of ise In 65 per cent.
5 per cent the
tus was found
thus it served
latter consisted
the heart

ine with Abnormal
healthy persons
acid, acetone, indi-
ited as a sign that
the liver was suffering from the comparative inanition, the functioning being affected as if the liver had been exhausted from overwork Six patients with liver disease and seven with diabetes or some blood disease were also tested, the findings confirming the important influence of impaired liver functioning on the metabolic processes There does not seem to be any specific elimination exclusively characteristic of liver disease, the characteristic feature is the grouping of the various abnormalities, the elimination being abnormal of practically all the elements of the urine, as he shows by the tabulated details

86 **Kidney Functioning in Nephritis in Children**—Among the practical results of the extensive research on orthostatic albuminuria and nephritis here reported is that the elimination of salt and of nitrogen have a reciprocal influence It is possible to modify one by artificially augmenting the other, and also by augmenting the intake of water This interdependence of the metabolism of nitrogen and of salt renders it possible to influence the functioning of the tubules and glomeruli separately If, for instance, the nephritis is of the vascular type, the tubules have to share in the elimination of the salt and urea which the glomeruli are unable to cope with The tubuli, therefore, accomplish this task as far as possible in addition to their own regular task. By reducing the intake of salt, the extra task thrown on the tubuli is thus lightened and they are able to concentrate their forces on the elimination of nitrogenous substances The reverse also occurs, the elimination of salt is promoted by lessening the task of nitrogen elimination Hence it is not necessary to exclude salt and nitrogen at the same time from the diet in kidney disease, one alone is enough Still less is it necessary or advisable to restrict the patient to an exclusive milk diet We can tranquilly allow salt to nephritics, even when there is edema, if we restrict the intake of albumin to correspond, and vice versa The amount we can thus permit varies with the extent of the damage of the kidney in the individual case, and should be determined by the metabolic findings

Treatment on these principles has been highly successful in Zondek's experience Some children with edema were allowed up to 5 gm of salt or more but the edema subsided and the proportional elimination of salt proceeded satisfactorily—provided the intake of albumin was restricted to the empirically determined amount In the same way, the residual nitrogen in the blood declined while the child was getting 80, 100 or 120 gm of albumin every day but no salt or very little In this way the diet can be varied and kept palatable One child with severe insufficiency of the kidneys had been kept on a liter of milk daily, and the dropsy kept increasing, while it began to go down as soon as the child was given less albumin than corresponds to a liter of milk Under no other conditions is strict individualization so necessary, he declares, as in the dietetic treatment of kidney disease Recovery is not complete until the kidney is able to take charge of the amounts of salt, albumin and water, corresponding to the patient's age, given together and eliminated together, the same or following day

89 **Edema in Bright's Disease**—This communication from the third university medical clinic of Vienna in charge of Chvostek, fills fifty pages and emphasizes the importance of injury of the walls of the vessels as a factor in dropsy Another point emphasized is the lack of dependence between edema and diuresis Abnormally protracted elimination after lactose tests is a sign of constitutional inferiority of the cardiovascular system This delayed elimination of lactose is the rule with orthostatic albuminuria and in obstinate Bright's edema In some cases—the details of which are tabulated—the nephritic edema began with acute onset and assumed from the start the character of stasis edema of the cardiac type, and yet the heart showed no signs of any serious derangement, but the patients were of the thymicolymphatic type, with narrow arteries In these and some other cases without manifest nephritis the patients were evidently of abnormal constitution and the edema displayed abnormal features

Zeitschrift für Tuberkulose, Leipzig

November 1915 XXIV No 6 pp 401 484

90 *Heliotherapy and Pigment A Jesionek.
91 *Origin of Apical Tuberculous Processes VI (Betrachtungen uber die Entstehung der tuberkulosen Lungenspitzenphthise) C Hart
92 Tuberculosis in Children (Zur Statistik der Tuberkulose im Kindesalter in Elsass Lothringen) E. Stern

90 **Heliotherapy and the Pigment Generated in the Skin**—Jesionek declares that we must get it fully into our minds that light can have no biologic action unless it is absorbed He also presents evidence that the main factor in the therapeutic action of the light rays is the pigment found in the epidermis under their influence, not the pigment inside the cells but the excess of pigment granules formed and thrown off by the cells His assumption is thus that certain substances are formed in consequence of the action of light on the skin, and that the excess of these substances gets into the circulation and thus reaches in time the tuberculous foci and acts on them He does not ascribe a therapeutic action to the stable pigment but to that which gets into the circulation The way in which the tanned skin tends to recover its whiteness when it is no longer exposed to the sunshine, testifies to the rapidity of absorption of the pigment There can be no doubt, he states, that this absorbed pigment has more or less of an influence on physiologic and pathologic processes in the body Light is not the only pigment-producing element, but under all circumstances the pigment is the product of a specific faculty of the cells derived from the ectoderm The pigment is not inherited but the faculty to produce it and in certain proportions is inherited Negroes as well as whites generate more pigment under exposure to sunlight, and the excess is absorbed just as in whites Removed from their natural environment and exposure of the body to the light, negroes no longer generate pigment in abundance and the system may feel the lack of this pigment supply to which the cells have been accustomed This may be the cause for the peculiar susceptibility to tuberculosis of the negro race in civilization

Experimental research will help to solve this question He says further that attention should be paid also to the fact that, among whites, individuals of a pronounced brunette type—and hence with greater pigment-producing faculty—acquire tuberculosis less frequently than blondes, whose skin does not generate pigment so readily For these and other reasons cited, he ascribes to the melanotic pigment of the epidermis decisive importance in the success of heliotherapy He adds that further research and experience will reveal whether a specific immunizing action can be ascribed to the pigment and its derivatives It is certain that more exposure to sun and light than is common with our present modes of life can do no harm but rather benefit, when not carried to excess Aside from the pigment—the importance of which, at least as a protection against exogenous injuries (Solger) is being recognized more and more—light probably influences absorption processes in the epidermis, and in this way affects the vascular system and through this the nutrition and metabolism of the skin

91 **Mechanical Predisposition to Tuberculosis Gives Basis for Effectual Prophylaxis**—In his sixth article on the origin of apical tuberculosis, Hart reiterates that mechanical factors are responsible for the localization of the tubercle bacilli at the apex, and that it is in our power to do away with the mechanical conditions affording the predisposition He cites Sumita's experience that even as late as in the thirties the development of the chest is not completed and it is susceptible of being modified by functional stimulation to growth He quotes further the remark of a sanatorium director that not one of the patients who have come there for treatment knew how to breathe properly Hart insists that a child entering school has a right to the best physical training available as well as the development of the mind and especial pains should be taken to develop the chest If this were done systematically, there would be no mechanical predisposition to apical disease in the next generation and tuberculosis might die out from lack of material Systematic breathing exercises, gymnastic exercises done while singing loud, are the main reliance for children who are not robust The importance of loud singing for the development and expansion of a child's chest has been emphasized for years, but little heed was paid to it until the Roentgen rays demonstrated the healing of apical processes as the chest expanded

He regards the compulsory military service as of inestimable value in overcoming a mechanical predisposition to apical disease, saying that experience has repeatedly shown that young men backward in physical development may catch up with and surpass their mates during their last phase of growth, during their military service The benefit for the health of the populace from compulsory military service is appreciated far too little at present, he reiterates Since preventive medicine has made such progress, camp diseases need no longer be feared, while the military training impresses hygiene and right living on the men and returns them to civil life healthy and settled, to found their own hearth and family This applies particularly to the prophylaxis of tuberculosis, and Hart pleads that youths be allowed to enter voluntarily on military service at an age somewhat younger than the age limit for the compulsory service This would give the young a chance to get out from the bad air and cramped attitudes of the store and factory during the years of the most important phase of growth Young men with chests of the phthisical type are now rejected by recruiting officers, but he urges that these are the very ones who might benefit most, and the earlier they are accepted the better Hart would like to have the measures for physical development in all circles made compulsory He calls on physicians to be leaders in this prophylaxis, "which, beyond everything else, documents the ideal trait in the medical profession Now that the importance of the mechanical predisposition to apical disease is recognized and the means to overcome this predisposition are known, our task lies clear before us"

Zeitschrift für Urologie, Leipzig

August 1915 IX No 8 pp 281 320

94 Development of Clinical Diagnosis of Disease of the Urinary Apparatus (Zur Entwicklung der klinischen Harndiagnostik) E Ebstein Concluded
95 German Urology in the War H Lohnstein Continued

September No 9 pp 321 360

96 *Primary Localization and Mode of Spread of Tuberculous Process with Chronic Renal Tuberculosis of Blood Borne Origin G Ekehorn (Upsala)

October No 10 pp 361-400

97 Wounds of the Bladder in War (Zur Kenntnis der Blasen schusse) P Goldberg
98 German Urology in the War H Lohnstein Continued

96 **Primary Localization of Tuberculosis in the Kidney**—Ekehorn concludes from his study of two cases that the primary lesion was in one small cavity in one kidney, probably the result of an infected embolus, the only process directly of blood-borne origin From this cavity the infection spread by continuity, and the urine sweeping away the bacilli from the spreading focus, laved the hilus and thus sowed infection over its surface No primary cavity could be found in the other case but he thinks there must have been and always is some single focus of blood-borne origin to start with

Zentralblatt für Chirurgie, Leipzig

No 6 1915 XLII No 45 pp 801-816

99 *Sheath Made from the Cicatricial Tissue in Suture of Severed Nerve. (Naht durchtrennter Nerven mittels Einhulsung im Eigengewebe) H Hans

99 **Sheath for Sutured Nerve**—Hans loosens up the nerve and slits lengthwise the club-shaped cicatricial tissue in which the stump of the nerve is embedded This club-shaped end is then hollowed out to form a shell or cup which fits over the other stump and is fastened to it with four or five stitches The exact technic is shown in two illustrations, it is claimed that by this method the special fibers of the nerve are coaptated with more precision

Zentralblatt für Gynakologie, Leipzig

Nov 6, 1915, XXXIX No 45, pp 779 794

100 War Affords Data on Duration of Pregnancy (Zeitpunkt der Konzeption und die Dauer der Schwangerschaft) F Ahlfeld

Nov 13 No 46, pp 795 826

101 *Intracranial Hemorrhage from Birth Trauma (Die intrakraniellen Blutungen des Neugeborenen infolge der Geburt) A Mayer

101 **Intracranial Hemorrhage in the Newly Born**—This number of the *Zentralblatt* is devoted almost entirely to Mayer's analysis of the literature on this subject and report of three cases from his own experience and discussion of the source of the bleeding and the causes The forceps had been used in each of Mayer's cases, and necropsy showed that the tentorium had been lacerated in each case The pelvis was of normal size in two of the cases, but premature rupture of the bag of waters and inadequate labor contractions finally compelled operative delivery Pressure from temple to temple and also from the frontal to the occipital bone may be dangerous, but cases are known in which the hemorrhage occurred with smooth normal delivery in women with wide birth passage and normal pelvis, who had already borne children He cites twelve cases of this kind, remarking that they show that there must be some predisposition on the part of the child It is possible that letting the child lie on its side may compress the veins and induce venous hyperemia, thus aggravating a tendency to hemorrhage in the tentorium region which the newly born might otherwise survive The pressure from the accumulating blood explains the cases in which slightly asphyxiated newly born children became more and more asphyxiated, and explains also the sudden deaths of not asphyxiated newly born who seemed to be normal for a time and then died suddenly

The symptoms vary as the hemorrhage is above or below the tentorium, and the reports of operative removal of the accumulated blood before irreparable damage has been done sound encouraging He thinks that we may be able to save many of the children by prompt intervention With hemorrhage above the tentorium the symptoms are more of a cortical nature, principally in the domain of the facial, oculomotor and accessorius nerves and in the extremities With hemorrhage below the tentorium, the symptoms are from the spinal nerves, such as rigid extremities, erection of the penis and wrinkling of the skin on the scrotum Spasms have differential value only when restricted to one side or one extremity With hemorrhage below the tentorium the children are strikingly quiet and somnolent, and there may be cyanosis, the fontanels do not bulge and the lumbar puncture fluid usually shows blood Puncture of the subdural space through the large fontanel at the point farthest toward the side may decide the question, while it seems perfectly harmless and saves much time With hemorrhage above the tentorium the children are restless and scream from the stretching of the dura, the greater fontanel bulges, and the vagus center, the vasomotor center and the respiration center show signs of irritation If the children survive to the stage of paralysis the spasms subside, there is general relaxation, the reflexes die out, and the respiration becomes of the Cheyne-Stokes type If the hematoma is not very extensive, it may be possible to aspirate the blood out through the fontanel or release it by lumbar puncture Dutreix has reported three out of five cured by repeated puncture, and other French writers have published successful cases of this kind Mayer has had no personal experience in this line but his review of the literature encourages more active measures than have been the rule hitherto

Gazzetta degli Ospedali e delle Cliniche, Milan

Nov 4, 1915, XXXVI No 76 pp 1185 1200

102 Abbreviation and Symbols for Early Care and Records of the Wounded (Sul regime delle medicazioni nelle formazioni sanitarie di guerra) O Cipollino

Nov 7, No 77, pp 1201 1216

103 Cerebral Embolism with Congenital Mitral Stenosis in Boy of 16, Recovery Under Quinin and Iodid C Pascale

Nov 10, No 78, pp 1217 1232

104 *Interpretation of Findings with Galactose Test of Liver Functioning (Sul rapporto tra funzionalita epatica ed ascite nella cirrosi) G A Pari

Nov 12, No 79 pp 1233 1248

105 *Prophylaxis of Malaria (In tema di malaria) A De Blasi

104 **Galactose Test of Liver Functioning**—Pari's further experience has confirmed the fluctuations in the response to the galactose test in the same person at different times Hence a single test has comparatively little significance He reports in detail three cases of cirrhosis of the liver tested repeatedly for alimentary galactosuria The response demonstrated that the liver was able to do its work better at some times than at others, its functioning fluctuating contemporaneously with the amounts of ascitic fluid produced but in the inverse direction

105 **Prophylaxis of Malaria**—De Blasi expatiates on the importance of rainy seasons and mild winters as favoring the spread of malaria and rendering the type graver He insists that too much reliance should not be placed on quinin in prophylaxis, but that all other preventive measures should be given due importance, the sick isolated, and rooms they have used disinfected before the nonmalarial are allowed to occupy them In the cases rebellious to quinin, he has often found methylene blue effectual and places great reliance on it The alleged cyclic recrudescence of malaria he ascribes exclusively to climatic conditions

Riforma Medica, Naples

Nov 6, 1915, XXXI, No 45, pp 1233 1260

106 Heart Block (Aritmie dromotrope Disordini di conduzione) G Rummo

107 Primary Penthelioma of Lymphatic Gland Rapidly Fatal G D Oria Commenced in No 44

Nov 13 No 46, pp 1261 1288

108 Pulsus Alternans (Aritmie inotrope Disordini di contrattilita) G Rummo

109 *Differential Importance of Precipitin Reaction in Epidemic Cerebrospinal Meningitis M Cassella

110 Pathogenic Relations Between Blood Diseases and Some of the Products of Intestinal Putrefaction O Cantelli Commenced in No 45 and to be continued

109 **Precipitin Reaction in Diagnosis of Meningitis**—Cassella shows by eight clinical cases the extreme importance of the precipitin reaction in the lumbar puncture fluid in obscure cases of epidemic meningitis He found the zonal technic most reliable, and that it was immaterial whether it was applied cold or by the thermoprecipitin technic The patient's serum during the disease never responded positively either to cerebrospinal fluid or to filtrates of meningococcus cultures, but serum from convalescents had high precipitating power for both, especially with the zonal technic Ascoli's method for the thermoprecipitin reaction, Vincent's and the zonal technic were applied in each of the eight cases

Boveri's zonal color reaction was positive in all but one case, and in this the precipitin tests were all negative (Boveri's reaction was described in these columns, July 11, 1914, p 205)

Nederlandsch Tijdschrift voor Geneeskunde, Amsterdam

Aug 14 1915, II, No 7 pp 1021 1092

111 Pseudomotor Nerve Action Vulpian's Paradoxic Tongue Sign (Onderzoekingen over spiertonus en spiertonusinnervatie I Het paradoxe tongverschijnsel van Vulpian) G van Rijnberk

112 Experiences with Cancer of the Breast Mammectomy Successful in Forty Per Cent of Fifty Six Cases (Eenige gevallen van amputatio mammae) S M Kropveld

113 Symmetrical Dysmenorrheic Dermatitis, Eighth Case on Record H A M E Lommen

Ugeskrift for Læger, Copenhagen

Nov 18 1915, LXXVII, No 46, pp 1785 1842

114 Recovery Under Magnesium Sulphate in Severe Case of Tetanus K Lehmann

115 *Localization of Abscesses in the Lungs E Petersen

115 **Localization of Abscesses in the Lungs**—Petersen compares the findings with various tests and the clinical course in 111 cases of a pulmonary abscess Differential and topical diagnosis is usually difficult and the localization is sometimes nearly impossible, and yet the success of operative treatment depends on exact knowledge as to where the abscess will be found All clinical diagnostic measures must be tried and the findings compared The stethoscope and the Roentgen rays are the main reliance

The Journal of the
American Medical Association

Published Under the Auspices of the Board of Trustees

Vol LXVI, No 2 Chicago, Illinois January 8, 1916

THE TREATMENT OF RESPIRATORY DISEASES IN INFANCY AND CHILDHOOD

WITH SPECIAL REFERENCE TO THE VALUE OF FRESH AIR *

JOHN LOVETT MORSE, A M, M D
Professor of Pediatrics Harvard Medical School Visiting Physician, Children's Hospital, and Consulting Physician Infants' Hospital and the Floating Hospital
BOSTON

There seems to be a great deal of confusion in the use of the term "fresh air" Some writers apparently mean by this term pure air without regard to its temperature, others seem to mean cold air without regard to its purity, others air which is both pure and cold, and still others apparently do not attach any definite meaning to it It is necessary, therefore, before speaking of the value of fresh air, to determine exactly what fresh air is In common parlance the opposite of "fresh air" is "bad air" or, as is sometimes said, the air is "close" One appreciates that one is not as comfortable in a room which is shut up as in one in which the ventilation is good One also appreciates that he is not as comfortable in a room in which there are a considerable number of people, if the ventilation is poor, as he is when he is alone in the same room Why? What is there or is there not in the air of the "close" room which makes it uncomfortable?

It was formerly supposed that the discomfort felt in a close room was due to the presence of toxic organic constituents derived from the breath, or to an excess of carbon dioxid in the air There is much difference of opinion as to the presence of organic matter in the expired breath The weight of evidence seems to show that it contains very little if any However this may be, it has been proved conclusively experimentally that the symptoms experienced in a badly ventilated room are not due to poisons excreted in the breath[1] It has also been proved that people can breathe for many hours without discomfort air containing a very much larger proportion of carbon dioxid than is ever present in a room, provided the temperature of the air is low and that it is in motion[2] Recent experiments seem to show, on the other hand, that the discomfort is due to a disturbance of the normal thermal relations of the body, the symptoms experienced in a close room being very similar to those felt on a hot, damp day[3] The cause of the discomfort is apparently an interference with the normal rate of loss of body heat Three factors are concerned in this interference the high temperature of the air, its high moisture content, and the lack of movement in the air It is evident, therefore, that as fresh air is the opposite of bad or close air, the essential characteristics of fresh air are not freedom from carbon dioxid or a hypothetical organic poison, but coolness, dryness and motion of the air Therefore, fresh air may be defined as air which is cool, dry and in motion

It is evident, therefore, that fresh air need not necessarily be pure air, if by pure air is meant air which does not contain bacteria or dust Both of these may be present in air and yet it will be fresh

It is self-evident that if the well feel better in fresh air than in close air, fresh air is better than close air for the sick, whether or not suffering from diseases of the respiratory tract It is also evident that air which is free from dust is more suitable in these conditions than air which is full of dust It is also evident that improper ventilation increases the dangers of reinfection from the patient and of infection from other patients or attendants

Coolness is one of the essential elements of fresh air Cool air is not, however, cold air Does cold air have a different action from cool air, and, if so, what is the action of cold air? The action of cold air may in this connection be divided into two parts — that which it has on the respiratory mucous membrane and that which it exerts on the system as a whole

Very little is known accurately as to the action of cold air on the respiratory mucous membrane Clinical experience shows, however, that when the mucous membrane of the respiratory tract is acutely inflamed, as in the early stages of nasopharyngitis, laryngitis or bronchitis, cold air acts as an irritant, increasing the cough and the symptoms of heat and tightness of the chest Clinical experience shows also that in nasopharyngitis after the acute stage is passed and the mucous membrane is swollen, cold air relieves congestion and diminishes the discomfort Cold air cannot under ordinary conditions have any action on the mucous membrane of the respiratory tract below the trachea or largest bronchi, because it will be warmed before it reaches it

It is well known that the application of cold to the surface of the body acts as a stimulant to the vaso-

---

* Read at the Sixth Annual Meeting of the American Association for the Study and Prevention of Infant Mortality Philadelphia Nov 10 1915

[1] Rosenau and Amoss Jour Med Research 1911, xxv 35 Crowder T C On the Reinspiration of Expired Air Arch Int Med October 1913 p 420 Weisman Biochemical Studies of Expired Air in Relation to Ventilation Easton Pa, 1913 The Toxicity of Expired Air Current Comment The Journal A M A Jan 24 1914 p 304

[2] Paul Ztschr f Hyg 1905 xlix 405 Benedict Bull 175 Office of Experiment Station U S Dept Agric, p 235

[3] Heating and Ventilation editorial The Journal A M A Sept 16 1911 p 980 The Reinspiration of Inspired Air Nov 20 1913 p 1986

motor system Howland and Hoobler[4] have shown that in pneumonia in children the exposure of the face of the children to cold air produces a rise in the blood pressure They found that when the children were put out of doors in warm weather the blood pressure was not raised They concluded, therefore, that the all important factor in raising the blood pressure was the temperature of the air (not its freshness) They state that there is "no doubt that an increase in the blood pressure, when it is abnormally low, which is constant and continuous and which is brought about without exhaustion or bad effects, is of the greatest value"

It is generally believed by clinicians that failure of the peripheral circulation is a frequent cause of death in pneumonia This belief rests on the assumption that the blood pressure is abnormally low in persons dying of pneumonia, and on certain experiments which seem to show that the vasomotor nervous mechanism is paralyzed in fatal pneumonia Weigert,[5] from his own experience and from the study of the literature, concluded, however, in 1911, that no rule can be established for the blood pressure in pneumonia, and consequently blood pressure readings are of no prognostic value Newburgh and Minot,[6] in 1914, from a study of a considerable series of cases, found that the systolic pressure in the fatal cases was continuously above the systolic pressure in the persons who recovered They conclude, therefore, that failure of the peripheral circulation cannot be a common cause of death in pneumonia The experimental work of Porter and Newburgh[7] has also shown that the vasomotor center is not impaired in fatal pneumonia in animals It is evident, therefore, that whatever systemic action cold air may have in pneumonia, it is not through its action on the vasomotor system

Having considered the action of fresh air and cold air, we are now in a position to speak of the use of fresh air and cold air in the treatment of diseases of the respiratory tract It is evident from what has been stated that the elements of freshness and coldness in the air must be considered separately On account of the paucity of scientific data, it is necessary to rely almost entirely on the results of clinical observation The conclusions which I have arrived at as the result of my own observations are as follows

In the early stages of acute nasopharyngitis, cold air increases the irritation of the mucous membrane and consequently the symptoms, but in the later stages, when the mucous membrane is swollen, it relieves the discomfort to a certain extent Cold air predisposes to affections of the ears Fresh air is of advantage Children with acute nasopharyngitis should, therefore, be kept in the house in cold weather, in well ventilated rooms at a temperature of about 60 F if they are in bed, and between 65 F and 68 F if they are out of bed

In acute laryngitis, cold air has a strong irritant action on the inflamed mucous membrane, and in the early stages increases the symptoms very materially Cold air is not indicated, but does no harm in the later stages Patients are more comfortable when the air is moist than when it is dry Children with acute laryngitis should, therefore, be kept in well-ventilated rooms, at a temperature of about 70 F, the air being kept moist

In the early stages of acute bronchitis, cold air increases the cough and the sense of constriction of the chest and of heat under the sternum The cough is less troublesome when the air is moist than when it is dry Children in the early stages of acute bronchitis should, therefore, be kept in well-ventilated rooms at a temperature of from 60 F to 70 F with the air moistened During the later stages, cold air ceases to act as an irritant, but there is no apparent advantage in cold air over air which is warmed Moisture is of no importance, because the mucous membrane of the bronchi is already moist The temperature of the room is of less importance at this time During the later stages of bronchitis they should, therefore, be kept in well-ventilated rooms in which the temperature of the air is moderate, but not cold

In very acute bronchitis associated with dyspnea and cyanosis, the contraindications to the use of cold air are the same as in the milder cases There is never any lack of oxygen in the air, therefore there is no advantage in out-of-door air There is no more oxygen, moreover, in cold air than in warm air The only possible advantage to be derived from cold air is, therefore, from its action as a vasomotor stimulant It is problematical, moreover, whether this action is of value The comparative disadvantages of cold air as an irritant to the mucous membrane and its advantages as a vasomotor stimulant must be weighed in each case

When bronchopneumonia has developed, the most acute stage of the causative bronchitis is usually passed There is, therefore, no contraindication to the use of cold air There is, however, no advantage in it, unless there is vasomotor paralysis The advantage even then is questionable A child with severe bronchopneumonia is very likely to be weak and depressed It may be further weakened and depressed by exposure to cold air Children with bronchopneumonia may be chilled and injured by exposure to cold in the same way that well children may be There is, therefore, no invariable rule as to the use of cold air in the treatment of bronchopneumonia in children They are, however, unquestionably benefited by fresh air As a rule, children with bronchopneumonia are probably better off in well-ventilated rooms at a temperature of between 50 and 60 F than they are out of doors in cold weather, unless there is vasomotor paralysis The advantages and disadvantages of cold air must, then, be weighed in each case and the decision made on the evidence on the two sides

The bronchial mucous membrane is not involved in lobar pneumonia, therefore there is no contraindication in this disease to the use of cold air There is no question that in this disease the general stimulant effect of cold air is of advantage There is also no question that children with lobar pneumonia are much more comfortable in cold air than they are in warm air Children with lobar pneumonia should, therefore, be treated out of doors or near open windows While children with lobar pneumonia are undoubtedly more comfortable when treated with cold air, it is doubtful whether the mortality of lobar pneumonia in childhood has been lowered materially, if at all, by the cold air treatment The statistics at present available are insufficient to show the influence of this form of treatment on the mortality If children with lobar pneumonia are exposed to cold air, whether out of doors or in the house, they must be dressed for it They, in the same way as children with bronchopneumonia or even well children, may be injured by exposure to cold It is sufficient to expose the face The body must be warmly covered and protected

---

[4] Howland and Hoobler The Effect of Cold Fresh Air on the Blood Pressure in Pneumonia of Children, Am Jour Dis Child, May, 1912, p 294

[5] Weigert Samml klin Vortr, 1911 p 459

[6] Newburgh and Minot The Blood Pressure in Pneumonia, Arch Int Med, July, 1914, p 48

[7] Porter and Newburgh Am Jour Physiol, 1914, xxxv, 1

In conclusion Fresh air is of advantage in the treatment of all diseases of the respiratory tract It is also of advantage to have the air pure, that is, free from bacteria, dust and smoke Cold air is of advantage in some conditions, but harmful in others It must be used with discretion It is not possible to treat all diseases of the respiratory tract in the same way

70 Bay State Road

PROGRAM FOR THE PROMOTION OF THE PHYSICAL WELFARE OF CHILDREN AND THE PREVENTION OF TUBERCULOSIS AMONG THEM *

SHERMAN C. KINGSLEY
Director Elizabeth McCormick Memorial Fund
CHICAGO

At the meeting of the Mississippi Valley Tuberculosis Conference in St Louis in 1914, a resolution was passed calling for the appointment of a committee which should formulate a program of activities for the promotion and safeguarding of the physical welfare of children and the prevention of tuberculosis among them

We do not assume that all the features of such an outline will be immediately applicable to any one locality, but we believe that a program can be suggested which will give greater definiteness of purpose and unity of action, and that its various features can be gradually realized

The states comprising this Conference territory are Arkansas, Colorado, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Missouri, Montana, Nebraska, North Dakota, Ohio, South Dakota, Tennessee, Wisconsin and Wyoming

Before attempting to offer definite suggestions, let us first propound a few questions and state certain facts concerning the children in our Conference territory

1 How many children are there?
2 Where do they live?
3 What tuberculosis organizations and agencies are now in the field?
4 Do these organizations reach the country child?
5 Is the country child so healthy that he needs no attention?
6 Have these agencies a program of activities which already covers the field?
7 Are there agencies in the field that can be enlisted for service, or for larger service, in promoting the physical welfare of children?

There are many other similar questions, but these seem to be, perhaps, especially pertinent

Here are some facts about the children in our Conference territory

NUMBER OF CHILDREN AND CHARACTER OF LOCALITIES IN WHICH THEY LIVE

The 1910 census says there were at that time in the United States 29,499,136 children under 15 years of age, and the figures we shall use relate to children under that age Of this number 11,824,801 children lived in the states constituting the Mississippi Valley Conference territory The Handbook of Federal Statistics of Children issued in 1913 by the National Children's Bureau gives the distribution of children in the United States by size of cities, as follows

18 3 per cent live in cities of 100,000 and over
7 5 per cent live in cities of 25,000 to 100,000
13 5 per cent live in towns and cities of from 2,500 to 25,000
60 7 per cent live in towns of less than 2,500 and in the country

The Bureau of the Census classifies those living in communities of 2,500 or more as urban and those living in communities of less than 2,500 and in the country as rural

Here, then, are the facts about our Conference territory In 1910, 4,065,188 children under 15 years of age lived under urban conditions and 7,799,613 under rural conditions In other words, 34 24 per cent were in towns of 2,500 or more, and 65 76 per cent in communities of less than 2,500 and in the country, almost two to one In only two states of our Conference territory do the children living under urban conditions outnumber those living under rural conditions These two states are Ohio and Illinois The total number of children under 15 years of age in these two states was 3,009,788, and of this number 1,647,525 are urban and 1,362, 263 rural, or 54 73 per cent urban and 45 27 per cent rural If we deduct the children living in these two states from the total number in the Mississippi Valley Conference territory, we find that 27 36 per cent of the remaining children are living under "Urban" conditions and 72 64 per cent under "Rural" conditions, nearly three to one

TABLE 1 —CHILDREN UNDER 15 YEARS OF AGE LIVING UNDER URBAN AND RURAL CONDITIONS—UNITED STATES CENSUS, 1910

	Per Cent. Urban	Per Cent Rural
North Dakota	8 10	91 90
Arkansas	9 32	90 68
South Dakota	9 77	90 23
Tennessee	13 3	86 7
Kentucky	14 5	85 5
Idaho	16 29	83 71
Nebraska	20 63	79 37
Kansas	24 27	75 73
Iowa	24 82	75 18
Wyoming	28 78	71 22
Montana	33 77	67 23
Minnesota	32 89	67 11
Missouri	34 19	65 81
Indiana	37 2	62 8
Wisconsin	38 74	61 26
Michigan	43 37	56 63
Colorado	43 75	56 25
Ohio	55 8	44 2
Illinois	57 05	42 95

Table 1 gives the figures for each of our nineteen states

Perhaps the figures in Table 1 will help to indicate the nature of our problem, for antituberculosis workers in each of the above states will know at once how effectively their programs reach 100 per cent of the children

HOW THE FIELD IS COVERED BY THE PRESENT ANTI-TUBERCULOSIS ORGANIZATIONS IN THE MISSISSIPPI VALLEY CONFERENCE TERRITORY

Table 2 is a tabulation of the tuberculosis organizations in the Mississippi Valley Conference territory taken from the 1911 directory of the National Association for the Study and Prevention of Tuberculosis and the supplement of 1913 The table does not bring the figures quite down to date, but it gives a fairly adequate idea of our present machinery

---

* Read at the Mississippi Valley Tuberculosis Conference Indianapolis 1915

In all but four instances each state has a state association There are 323 local associations and 181 hospitals and sanatoriums, 75 dispensaries and 87 open air schools As a rule the state association is located in a prominent city and a majority of the local associations are in communities of considerable size One hundred and thirty-four of these are county associations, but there are 1,466 counties in our nineteen states Eleven, states have state sanatoriums The dispensaries, however, are local and the majority of them are in cities of over 25,000 The open air schools, likewise, are in cities of considerable size The total capacity of the hospitals and sanatoriums is about 8,728 There are approximately 2,175 children in the open air schools It is well known that while most of this tuberculosis machinery is in congested centers, even in these places it is entirely inadequate Then when we recall that between two and three children live under rural conditions to every one under urban conditions in our Conference territory, we can get some notion of the inadequacy of our present program

TABLE 2—TUBERCULOSIS ORGANIZATIONS IN MISSISSIPPI VALLEY CONFERENCE TERRITORY

	State Associations	Local Associations	Sanatoriums and Hospitals	Beds	Number of Dispensaries	Open Air Schools	Approximate Number of Pupils
Arkansas	1	4 (2 County)	1	74			
Colorado	1	1	23	1,695	2	3	75
Idaho			1	45			
Illinois	1	27 (7 County)	21	2 201	14	29	725
Indiana	1	83 (79 County)	12 (1 State)	457	2	3	75
Iowa	1	8	11 (1 State)	305	1	4	100
Kansas	1	1	4 (1 State)	23	1		
Kentucky	1	11 (4 County)	7	106	6	3	75
Michigan	1	51 (8 County)	17 (1 State)	303	8	9	225
Minnesota	1	34 (8 County)	11 (1 State)	518	3	5	125
Missouri	1	17 (13 County)	14 (1 State)	454	14	8	200
Montana	1	2	1 (1 State)	32			
Nebraska	1	3	1 (1 State)	62	1		
North Dakota	1		1 (1 State)	25	1		
Ohio	1	28 (10 County)	31 (1 State)	1,458	13	16	400
South Dakota			2	64			
Tennessee		3 (1 County)	11	514	2		
Wisconsin	1	50 (2 County)	12 (1 State)	392	7	7	175
Wyoming							
Total	15	323 (134 County)	181 (11 State)	8,728	75	87	2,175

THE PHYSICAL WELFARE OF THE COUNTRY CHILD

There seems to be a general assumption that being born in the country gives one a clean bill of health and eliminates children from the health problem We are at a disadvantage on this point because so little health work has been done in the country and small towns There are practically no organizations which take cognizance of the physical welfare of country children Public interest, however, is beginning to be aroused in regard to rural conditions and a number of local studies on the definite question of health of country children have been made

Perhaps the most significant of these is the survey made by the Committee on Health Problems in Education of the National Council of Education and the American Medical Association The report was prepared by Dr Thomas D Wood, of Columbia University, chairman of the Committee on Health Problems of the National Education Association, last year

In Table 3, taken from official reports of districts in Massachusetts, New Jersey, Pennsylvania, Idaho and Virginia, Dr Wood contrasts the percentages of mental and physical defects between city and rural children

In all but two instances of the sixteen classes of defects enumerated in Table 3 the percentage of defectiveness is greater for the country child than for the city child

Dr Wood further says

> No one actually knew how bad the country schoolhouse was until the National Education Association made a survey The results have been amazing and in many instances appalling These results pointed to the fact that we are neglecting the health of the country child to a serious degree, for wherever urban and rural statistics concerning the health of schoolchildren were contrasted, the country child was found to be anywhere from 5 to 20 per cent more defective than the city child

In a recommendation for further study, Dr Wood's committee states

> As a result of our preliminary studies we have demonstrated
>
> 1 That the rural school is, in sanitation and general fitness for its important use, relatively the worst type of building in the whole country, including in this category not only all types of building used by human beings, but also those used for live stock and all domestic animals
>
> 2 That the rural schoolchildren are less healthy, and are handicapped by more physical defects than the children of the cities (including all the children of the slums)
>
> At present, the country schoolchild at home and in school receives on the average less intelligent and effective health care than the city child Relative to their importance, the country children receive less careful attention than all the other living things that grow on the farm

Activities in the infant welfare field also throw light on this question New York City, through its milk stations, through its efficient Bureau of Child Hygiene in the health department and through the cooperation of many child-caring agencies, has reduced its death rate below 100 out of each thousand In the country as a whole it is somewhere around 145 Chicago, Cleveland, Philadelphia and other large cities, through similar activities, have lowered their baby death rates well below that for the country as a whole Such indications, together with the studies made by Dr Wood and other people, seem to answer the question as to whether the physical welfare of country children needs attention It is not urged that the city child is intrinsically more healthy than the country child Any better showing that the city can make on the health side is doubtless due to the greater attention and care given to the city child

Any program that comprehends the physical welfare of 100 per cent of the children, then, must take cognizance of such facts, and it must be broad and comprehensive Tuberculosis workers become in a sense residuary legatees or preferred creditors for all the array of diseases which lessen bodily tone and weaken resistance, for they are all likely to become contributory to tuberculosis All such diseases and conditions must be reckoned as enemies to be combated in the general tuberculosis campaign The work of prevention must be exalted into a real cause

A SUGGESTED PROGRAM FOR THE GRADUAL REGULATION AND CONTROL OF TUBERCULOSIS IN CHILDREN

The work naturally divides into two divisions or classes of activity

1 The creation and promotion of institutions and agencies for the care and relief of those who are victims of the disease, and for safeguarding their families and associates

TABLE 3 —AVERAGE PERCENTAGE OF DEFECTS IN ALL THE STATISTICS TABULATED

	Percentage, City	Percentage, Rural
Heart disease	0 40	0 745
Mental defects	0 15	0 8
Lung disease	0 32	1 25
Anemia	1 5	1 65
Curvature	0 13	3 5
Breathing defects	2 1	4 2
Ear defects	1 28	4 78
Enlarged glands	13 01	8 28
Nasopharynx	7 5	15 9
Malnutrition	7 65	16 6
Nasal septum defects	14 4	20 75
Eye defects	13 43	21 08
Adenoids	12 5	23 4
Throat defects	20 4	26 5
Tonsil defects	16 42	28 14
Teeth defects	33 58	48 8

2 The conduct of a vigorous department of education and propaganda

The first step after a preliminary survey of the local conditions will be the organization of a clinic Through its activities the society will come in vital touch with tuberculosis sufferers and all the problems involved These contacts will afford that first hand knowledge and conviction which is the motive power of the fight, for most communities want their sufferers cared for as a first consideration and can be led farther and faster into constructive measures through experience in working out the problem

Activities

a Careful medical examination of patients and through children s clinics all children in families of tuberculous persons Home visitation, care and supervision, with special attention to preventive work among the children

b Sufficient and efficient hospital provisions for advanced cases by municipalities and counties, under provision of a state law providing for such institutions

c Sanatoriums for incipient cases, with adequate and appropriate provisions for children Special cottages or quarters separate and apart, with a regime suited to children's needs

d Open air schools As a rule from 2 to 10 per cent of schoolchildren have physical defects and special needs requiring such special attention as is given in open air schools Also get fresh air for 100 per cent of your children, by frequent opening of windows

e Sanatorium extension work, equipment of porches, roofs, etc, and special home relief, including cooperation with city and county relief agencies and charities of the community

f Medical examination of employees Save the fathers and mothers of children by the early detection and treatment of disease Attention to factories and working places promotes shop sanitation and wholesome working conditions Make use of shops and factories as places for lectures to both men and women

g Christmas seal campaign Back of the Red Cross Christmas seal is the best thought and the goodwill of our country for the health and welfare of all the people Make its message in the fight against tuberculosis known to every home, every teacher and child in your community

h Infant welfare Proper care and protection of babies yields maximum health results If there is no agency in your community for this work, get it started

Our second division of work is the Department of Education and Propaganda That tuberculosis worker is strong and efficient who most effectually enthuses, arms and sets to work the already organized forces of his community The following are agencies usually found in our scheme of government and in the social machinery of our different communities

1 The public school with its teachers and officers
2 Boards of health, state and local
3 Boards of county commissioners
4 City or county medical societies
5 The country editor
6 Granges and farmers' alliances
7 Labor unions and fraternal orders
8 Women's clubs
9 Church organizations

All of these agencies afford opportunities for the most vital cooperation Definite study should be given to the plan of approach and to the preparation of material for the different groups

Here are some facts about the different organizations enumerated

a The Public School—There are 277,148 school buildings in the United States and 565,463 school teachers There are 248 normal schools, with an average of 94,000 persons training to be teachers There are many other teacher training schools Then there are school officers state superintendents, county superintendents and school boards There are 250,000 country school districts in the United States, each with its three trustees Then there are stated meetings of teachers, county institutes and school associations

There are 20,000,000 schoolchildren in the United States Compulsory education laws require them to spend from six to ten years at least in the presence of schoolteachers and to spend an aggregate of 2,283 000 years in school houses every twelve month Perhaps the first and most important step is to make *sure that* you have medical inspection in your schools or if a beginning has been made, strengthen and perfect the work

The summaries of medical inspection so far carried on show that 60 per cent , or over 12,000,000, of the schoolchildren in the United States have physical defects serious enough to interfere with their school work More detailed studies in a number of places indicate that something like 1,000,000 of these children are so physically defective as to render their school experience practically useless unless something more is done Our program should call for medical inspection of a high order, for school nurses, for school clinics and agencies for the correction of physical defects of the children Our aim should be to make the whole army of over a half million schoolteachers allies in promoting the physical welfare of children Each worker should cultivate those in his own field

Similar definitely directed efforts should be made to reach boards of education, county superintendents and other school people Our efforts should not stop with a square deal for the debilitated child, but we should demand their fresh air and hygienic rights for the whole 100 per cent of the schoolchildren There is always plenty of fresh air outside of school buildings and we should help to get it on the inside by the proper use of the old household device, the window

It is very desirable to have an open air school or some special effort of its kind connected with every normal school or teacher training school, so that teachers in the making may come to understand the whole needs of children, and that they should not be treated in segments, as half mind and half body, but to realize that the physical and mental must go through the world together and that the world is demanding 100 per cent efficiency in both, as never before

b *Boards of Health, State and Local*—Similar efforts should be made to study the possibilities of boards of health The Rockefeller Foundation in its fight against hookworm endeavored, not to create new organizations, but to vitalize boards of health, state and local, thus utilizing existing machinery There is a great lesson for tuberculosis workers in this effort

c *Boards of County Commissioners*—In our form of government county commissioners are responsible for the poor relief and charity service of their respective counties The possibilities of cooperation here should also be definitely studied and material presented especially for their use

d *City and County Medical Societies*—The physician is charged with the responsibility of the health of the community The possibilities of cooperation and mutual helpfulness should be fully realized

e *The Country Editor*—Health writers and health departments in metropolitan journals are creating a demand for similar activities in the smaller local papers The country editor will gladly use vital material and will open his papers for question and answer departments and special material on health subjects

f *Granges and Farmers' Alliances*—In most of the states of our Conference territory are to be found granges and farmers' alliances, or some kindred organization The purposes of these are both social and for promoting community welfare, and their cooperation can be enlisted by well defined efforts

g *Labor Unions*—Besides concerning themselves with hours and wages, labor unions are interested in ventilation, housing, and general shop conditions They offer one of the most promising fields for cooperation in the crusade against tuberculosis

h *Women's Clubs*—All the women's clubs have taken a prominent part in the tuberculosis campaign, as well as in many other health movements, and stand ready to do even a more vital work if definite things are given them to do

i *Church Organizations* —Tuberculosis Sunday, special sermons on health subjects, the church as a meeting place and in many other lines, is another resource in this campaign

If we are to reach these agencies, proper attention must be given to lectures, special pamphlets, lantern slides, moving pictures and exhibit material This whole matter should be carefully studied by the ablest people that can be gotten together and the material and the facts now known should be so tabulated and correlated that the most vital use can be made of them

If prevention is ever to prevent, a more completed and effectual work must be done with the children Our program must begin with them when they are babies Infant welfare work should be made universal in this country, as it is in New Zealand, where through such efforts the death rate of babies has been reduced to fifty-one out of a thousand for the whole country

The next great goal is to see to it that in the school period, when organized society compels the children to come in and sit from six to ten years in front of duly appointed agents, the teachers, that the needs of these children are recognized and understood We should fight the fight in the earlier and more promising and hopeful period of childhood and not wait until the same defects and conditions which produced failure in school become again the causes of failure in after life

We have become accustomed to caring for trouble after it has happened We recognize the necessity of training people to become hospital superintendents, managers of institutions, wardens of jails, superintendents of charitable organizations, and we spend vast sums of money in creating institutions for taking care of chronic illness and finished dependents We must recognize that if we are to win this fight in the childhood period it will require thought, care, money and technic Irving Fisher has stated that the total annual economic loss from tuberculosis alone is $1,100,000,000 The total cost of running the public schools of the United States is a little over $500,000,000 annually, or less than half the other sum We can and should work out a preventive program which will rob this older order, with its hospitals, sanatoriums, its almshouses and jails of much of its present clientage Spend your service and your money in giving children a chance

---

Standard Diets for Hospitals—An experiment by the health department of New York City in establishing standard dietary methods in its hospital service has proved successful A standard menu, basic dietary table and rules and regulations for the guidance of employees in kitchens and dining rooms was prepared by a committee appointed for the purpose The new methods were introduced in January, 1915, and have given complete satisfaction both with regard to the quality of food and the economy of the proposition A saving of $10,000 in nine months in the contagious disease hospitals alone has been effected This amounts to a reduction of 3⅔ cents on the average per capita food cost The saving has been accomplished by reducing the amount of high-priced food (meat) and substituting other foodstuffs equally nutritious and agreeable, by eliminating waste in the preparation of food through the use of standard menus, giving the employees the kind of food they want thus reducing plate waste

THE EPIDEMIOLOGY OF TUBERCULOSIS

F C SMITH, M D
Surgeon, U S Public Health Service
FORT STANTON, N M

Tuberculosis, referred to by Hippocrates as "the greatest and most dangerous disease and the one that proved fatal to the greatest number," antedates medical history That the tubercle bacillus, like its congeners the hay, milk, butter and timothy bacilli, was originally saprophytic is extremely probable Whether it became pathogenic when man forsook the tree tops for caves or when he began to clothe his body or cook his food, whether he acquired it from his bovine associates or they from him we have no means of knowing It is commonly believed that wild animals and uncivilized men have always been found free from tuberculosis until infected by contact with civilization Tuberculosis was acquired or developed possibly through a combination of many factors, some of which can only be conjectured It is not even known with certainty whether man and the tubercle bacillus are slowly approaching a biologic adjustment such as exists, for instance, with the colon bacillus, or whether their relations are becoming more hostile There are those who believe that an increasing tolerance of the human host for the bacillus is evident, as when the case mortality of the Jew and the Indian is compared The comparison is not altogether fair, since it is a comparison of sagacity, of husbandry, of skill in combat rather than the weighing of racial immunity On the whole, however, there is reason to believe that a biologic compromise is being approached rather than lost, and this view finds some support by analogy in the apparently lessening virulence of leprosy and syphilis

The great antiquity of tuberculosis finds confirmation in the relationship of the bacillus to its host, in its adaptability, its perfect though antagonistic symbiosis As examples of this may be mentioned

1 Its varieties, avian, piscian, bovine and human The question of its transmutation need not be considered here

2 Latency It will remain alive but dormant and harmless in the tissues of both man and animals for an indefinite period

3 Low virulence and habit of compromising with its host Invalids with open tuberculosis for ten years or more are not uncommon

4 Resistance to decomposition In earth and in water at all natural temperatures the tubercle bacillus successfully resists destruction for long periods of time, its waxy capsule protecting it from destruction in the open as it does in its host in what is probably a purely mechanical way A saprophytic form which is morphologically and tinctorially different may exist, although evidence thereof is far from satisfactory, and for all practical purposes the saprophytic form is not at all necessary to the tubercle bacillus for its perpetuation

THE INFLUENCE OF CLIMATE AND TOPOGRAPHY

Early ideas of the epidemiology of tuberculosis were quaintly erroneous The belief that certain regions of the earth were free from tuberculosis because of some occult influence or peculiar circumstance has persisted even to our own day The one time freedom from the disease of the inhabitants of the Hebrides was early noted and explanation offered that the smoke of the particular kind of peat burned there on open hearths had antiseptic properties To the lime kiln region of England was ascribed special virtues on account of the prevailing gases found in the atmosphere Iceland, before it became infected, was thought to possess certain qualities due to its snow and cold, the arid Southwest and other desert regions, because of dryness and sunshine, mountainous districts because of altitude, and sea air because of iodin and other salts suspended in the atmosphere Usually an "immune zone" is merely uninfected territory, although sometimes the absence of those natural conditions conducive to density of population, predisposing trades, extreme poverty, intemperance, and unhealthful forms of amusement is sufficient to inhibit successfully the development of tuberculosis This is true of certain parts of the arid Southwest, where in spite of contact with large numbers of cases of open tuberculosis among health seekers, heavy infection among native born whites is not apparent It is not necessary to look beyond the social state of these people to account for their immunity, and if economic conditions arise in the Southwest similar to those found in the large industrial centers, there is no reason to believe that climatic peculiarity will afford any protection worthy of practical consideration

It is not profitable to study further the influence of geographic location, of soil, of ground water or other topographic features so laboriously dealt with in the very extensive literature devoted to this subject in the last half century These matters have no bearing on the epidemiology of tuberculosis except in the small degree wherein they affect the habits and wealth and general health of mankind, which matters can best be considered by themselves It is sufficient to say that while depressing natural influences weaken physical resistance and so predispose to tuberculosis, the absence of such depressing influence in no wise gives immunity whenever other conditions favorable to infection occur

PREVALENCE OF INFECTION

The tubercle bacillus is commonly referred to as ubiquitous, but always with the reservation that it does not multiply outside the animal body The experiments of Rosenau and others show that it is readily killed by heat and chemical agents but its resistance in both the dried and moist states to natural agents, including light and direct sunlight, is not to be lightly regarded, though it has been frequently underestimated The sputum from patients with open pulmonary tuberculosis is without doubt the commonest source of infection There is reason to believe that freshly shed bacilli suspended in moist spray from a coughing consumptive are particularly virulent, and that bacilli contained in dust or in contaminated food are somewhat less dangerous The common occurrence of the bacillus in feces and urine not only in open but also, occasionally at least, in closed cases adds a larger aspect to its ubiquity

It is customary to speak of tuberculosis as a house disease Flick attaches the utmost importance to that period before death when a consumptive is bedridden and helpless, and calls this the time when seed is sown which produces a harvest of new cases Only the careless or helpless consumptive is feared What value will ultimately be assigned to casual infection such as occurs through the agency of street dust, flies, water and fomites can only be conjectured Certainly there is no scientific evidence which would justify us in regarding it lightly For the present, however, in practical work it must be to a certain extent ignored A direct, intense, intimate and prolonged contact is believed to be necessary for infection, although (to repeat) this may be found incorrect The tendency at present is to attribute less and less importance to indirect transmission of any disease

MANNER OF INFECTION

It is believed that infection usually occurs either through inhalation or ingestion There is some question whether bacilli suspended in spray or dust may by inhalation reach the finer bronchi or the alveolar spaces directly but it is generally conceded that a smaller dosage will infect by inhalation than by ingestion This has not been scientifically proved On the other hand, it is no longer doubted that tubercle bacilli may, especially when suspended in fatty particles, pass through the intact mucous membrane of the intestinal canal and produce disease of the lungs or other distant parts without necessarily causing abdominal tuberculosis It is known that the lymph glands are often (perhaps always) the first seat of disease, and that these glands are organs of defense The frequent presence of living tubercle bacilli in the lymph glands of nontuberculous cadavers and their persistence indefinitely in healed lesions even those of the most minute character, have been demonstrated That bacilli are distributed throughout the body, usually by the lymph channels but often by a true bacillemia, must also be accepted All these facts have a bearing on the epidemiology of the disease If a few bacilli may be harbored for many years in a lymph gland and finally liberated at an opportune moment to produce disease, latent infection becomes a vital question, the danger of minute dosage may be a very present one, continuous sensitization has a new significance and the maintenance of vigorous physical defense a still greater importance

TIME OF INFECTION

The majority of all persons are infected before the age of 12, and in slum districts and other places where the sick are numerous and contact intimate, almost universal infection is accomplished much earlier The age at which infection occurs among the better protected classes of society is not definitely known Just what the relation of this early infection is to the disease which may appear a few years later, in the time of stress, is not certain, but there is a growing conviction that it is directly causative Baldwin's dictum is now widely accepted "Childhood is the time of infection, youth the time of superinfection, and that from extension of the primary disease" He, together with Bushnell, Brown, Bernard and others, believes that adults are comparatively little endangered by exposure to tuberculous infection because they are vaccinated against tuberculosis by accidental inoculation in early life But for this protection, acquired of course at great risk to the child, it is presumed by some that adult human beings would be as susceptible to first infections as the adults of other animals are known to be The immunity of adults is therefore no great cause for congratulation, it is attained at too great a price About 10 per cent of all deaths among children under 15 years of age are due to the various forms of this disease It is known that tuberculosis increases in frequency but decreases in fatality with each year of life during childhood There is some reason to believe that under a certain age resistance to the disease is not developed, and this independently of the influence of acquired protection from accidental vaccination This, together with the difficulty of preventing gross infection of the exposed infant, has led to the suggestion that infants and young children should be given absolute protection by immediate removal from tuberculous environment until the rather arbitrarily fixed age of 4 That an infant or young child may quickly succumb to an overwhelming dose of tubercle bacilli is known There is experimental evidence also to show that continued small dosage, such as might result from frequent contact with a consumptive, is even more apt to produce disease than a single large dose

BOVINE TUBERCULOSIS

About 8 per cent of deaths from tuberculosis in man are caused by bovine bacilli, most of the victims being children Raw market milk of the cheaper grades in most cities frequently contains bovine tubercle bacilli Opinion has fluctuated concerning the importance of bovine infection, from von Behring's theory that all tuberculosis is due to bovine infection acquired in infancy, to the idea that it might safely be ignored and was even desirable It seems definitely settled that while the danger from this source has been sometimes exaggerated, it is a distinct menace and there remains only the question as to how it can best be avoided It is an amazing fact that with full knowledge of the epidemiology of tuberculosis among cattle, the disease has not been eliminated in a single state in this country The practical difficulties have appeared too great to be overcome The disease is so widespread among cattle, it is so often a benign infection, the cost of destroying all infected animals is so great that the policy is now forming of segregating infected animals and keeping those only slightly affected for limited but definite usefulness They are entirely suitable for breeding purposes, calves removed from the infected herd at birth showing in after life no evidence of tuberculosis In Germany the flesh of tuberculous cattle is marketed and readily sold proper label being affixed and suitable instructions for thorough cooking being given In this country there is a growing disposition to permit the sale of milk from tuberculous cows if properly pasteurized and so labeled The ultimate eradication of the disease among cattle depends on segregation and on making the uninfected animals as resistant as possible by proper stabling, water, food, exercise and air[1] The analogy between the problems presented by the disease in man and animals, respectively, is too clear to require comment

PREVALENCE AND FATALITY OF THE DISEASE

Tuberculous infection, conceded as practically universal among adults, causes disease only under certain fairly well known conditions These, in a word, are those which exhaust vitality, which drain the physical resources, they are fatigue and depletion The ages, occupations, habits, social conditions and economic states of those chiefly affected all point to this important fact

---

[1] Report of the International Commission of the American Veterinary Medical Association on the Control of Bovine Tuberculosis, September, 1910

Age—About one third of all deaths between 20 and 40 are due to tuberculosis The rate is also almost as high in women between 15 and 20, and wherever work or other deleterious condition is imposed on those either younger or older than the conventional age a mortality rate comparable to that experienced in mid-adult life is commonly found There is scarcely need to point out that the period covered by these years is the age of greatest stress, the time of supreme endeavor Between 20 and 40, ardent desires, intense ambitions, passions, both good and evil, drive the human machine relentlessly The desire to excel, to marry well, to be admired, pride, instinct and vanity, all conspire to stimulate activity The ambition to make money, obtain place and secure power, leads to self denial and to immoderate exertions — to depletion and fatigue Whether a man's capital is brain or brawn, whether he has mental force or physical strength to invest, the midperiod of life finds him spending, spending lavishly, of the best he has Whether he succeeds or fails, his expenditures, if he is ambitious, are limited only by his physical resources With women no less than with men is this a critical period, and it will not be strange if, owing to more active participation in life's struggle, the slight difference in the mortality rate from tuberculosis which is now in the female's favor should shortly disappear At this age, too, the fullest opportunity is found for indulgence of every passion prejudicial to general good health Here the most abundant temptations appear to exhaust physical resources Alcoholism and venery now take their greatest toll of life's chiefest possession Be he then virtuous or vicious, filled with consuming ambition or merely the prey of evil passions, man finds himself between 20 and 40 more frequently than at any other time in a condition of anergy to tuberculous infection and succumbs to it more frequently than to any other disease

Occupation—While there are certain occupations which predispose to tuberculosis, especially pulmonary tuberculosis, it is generally true that those occupations in which a high mortality occurs are those calling for excessive effort or often by reason of poor pay, accompanied by privation The predisposing trades which should by all means be given due place are, first, the dusty occupations, and, second, the trades to which bad air, excessive heat or noxious gases are peculiar Stone cutters, dry grinders and workers in wood and certain textiles have long been known to be particularly susceptible to pulmonary tuberculosis, presumably as a result of mechanical injury or irritation to the lungs Although miners are not usually included in this class, exceptions are occasionally noted, Lanza of the Public Health Service reports an excessively high mortality rate among the miners at Joplin, Mo, where peculiarly dusty rock strata are encountered

The other trades in which deleterious influences are directly encountered are glass blowing, cigar making, printing, bookkeeping, the making of hats and caps, etc Some of these are in reality dusty trades, and glass blowing may easily cause mechanical injury to the lungs A large number of trades often mentioned as predisposing are simply representative of those in which employees are underpaid or overworked or which are sought by the physically unfit or by those mentally unqualified to conserve their physical resources Of the occupations in which predisposing influences are actually found, it can be said that here are conditions most easily remedied of all that the epidemiologist will encounter In most cases only physical conditions are to be combated, dust, heat poor construction and insanitary practices The conditions to be corrected are usually simple for a sanitarian It is among those classes whose problems are entirely social and economic that the epidemiologist will sometimes despair Large numbers of eminent men of genius have fallen victims to tuberculosis "Nearly all hard zealots in the fields of letters, law, love, medicine and religion" were victims of consumption, according to Bonney Just as, at the other end of the scale, unintelligent toilers are driven by their necessity, their improvidence or their fate beyond the limits of safe physical expenditures, so men of genius are spurred by high endeavor to commit identical error and meet a common fate in tuberculosis In those professions trades and other occupations, characterized alike by comfortable living and moderate exertions, is found the lowest mortality from tuberculosis The death rate from tuberculosis among contractors and builders is about half that of their laborers, among planters and overseers less than half that among agricultural laborers (Warren), it is much less among merchants, brokers and bankers than among salesmen, clerks and bookkeepers, among authors and journalists than typesetters and printers Again we are forced to the conclusion that fatigue and depletion are the real predisposing causes, except in a few occupations in which deleterious influences per se are encountered, and that the daily grind of physical or mental exertion, coupled with a low wage and hence a low or mediocre standard of living, are the most important factors in occupational predisposition

Habits and Social Conditions—The ascetic and the roue are both common victims of tuberculosis Their habits, though directly opposed, possess the common property of producing fatigue and depletion The high mortality from this disease among the nuns of certain orders may be due in very small part to heavily infected environment, but according to more recent conceptions of the epidemiology, it is largely due to the mortification of the flesh, self-imposed penalties, long fasts and exceedingly depressing conditions under which the inmates live The members of a particularly fast social set, in which dissipation is excessive, may closely duplicate the experiences of the ascetic sisterhood The society belle exhausted by exacting social duties, the humble sweatshop seamstress exhausted by long hours of toil, the student burning the midnight oil and exhausting his physical endowment by too persistent application to his subject, the worthless profligate wasting his patrimony and depleting through dissipation his forces of resistance fall easy victims to tuberculosis Chronic fatigue, whether from excessive toil or excessive amusement disordered metabolism, whether from starvation or overindulgence, anxiety, whether due to religious fervor, business emergencies or games of chance, all are potent predisposing factors

Race may properly be considered with habits and social condition, although we have no disposition to deny that race, in itself, has a bearing on the epidemiology of tuberculosis Eliminating the other and more important considerations than blood, clinical experience indicates that there is some difference in the resistance which men of a few races show to the disease that there are at least two races especially vulnerable and several especially resistant It is certain, however, that habits and social conditions peculiar to these races have deeper significance than race itself The mortality from tuberculosis among the plains Indians of New Mexico is much greater than that of the Pueblos of the same state The former, notably the Apaches, are improvident, nomadic and indifferent to their own comfort They lack resourcefulness in meeting emergencies inimical to health, and are bound by numerous prejudices, such as a dislike for fish, milk, eggs and certain kinds of meat They are lazy, and their habits of personal hygiene are such that indigestion and diarrhea are frequent They are, moreover, intemperate when occasion offers The Pueblos, among whom the mortality from tuberculosis is less than half that among the Apaches, are thrifty farmers and householders with a desire for comfort and a full stomach Housebroken for centuries, they are comparatively clean in their habits They are better clothed, better housed and much better fed than their more primitive neighbors There seems no reason to doubt that the difference in their death rates is due largely to different ideals and habits Likewise in the habits of the negro, as regards housing, general hygiene, temperance, providence, etc, will be found many things which bulk large among the predisposing causes, and this is true of most races called susceptible Consider the Chinese as found in America, living in squalor, hoarding at the expense of his physical upkeep, exhausting himself by excessive labor and often given over to vice His mortality from tuberculosis is quite comparable to that of the negro, an ancient race under similar conditions suffers just as a more primitive one does Whatever the effect of race may be, it is not profitable to study since obviously there is no remedy for its influence In the habits peculiar to a race, frequently of far greater import than blood, are found matters amenable to change and fruitful study for the epidemiologist

Economic State—Rosenau calls tuberculosis a class disease It has long been known as an associate of poverty It is both a result and a cause of low economic state Warren of the Public Health Service has plainly pointed out the fact that poverty and a low standard of living are responsible for the high death rate among negroes in perhaps greater degree than any other factor Our own observations among the Indians are similar Among the most valuable observations made are those mentioned by Knopf in Berlin, where it was found that 42 per cent of all cases of tuberculosis occurred in families occupying only one room, and 40 per cent in families whose means allowed but two rooms Only 6 per cent of the cases were found in families living in establishments consisting of four or more rooms It is, indeed, a disease of fatigue and depletion which may be caused by many conditions, but by none more frequently than by poverty It seems almost unnecessary to recount why poverty predisposes to tuberculosis Poverty is associated with overwork and undernourishment, a forced acquiescence in unhygienic working conditions and a low standard of physical comfort at home Here child labor and the employment of others physically unfit are most frequent All times are times of stress The poor may not pause to nurse themselves for a minor illness or to complete recovery from a serious one, the best medical skill is not always available and proper nursing seldom had The diseases which particularly predispose to tuberculosis run riot among them owing to intimate contact of the crowded poor The effects of alcoholism and other vices are aggravated by poverty, and with the loss of physical fitness which welcomes tuberculosis in one generation there is the heritage of exhausted physical endowment for the next Sorrow, anxiety, fear, discouragement and discontent, physical exhaustion and physical discomfort, ignorance, vice and often inherited poor physical endowment *what better soldiers could this Captain of the Men of Death require!*

Application

As has been well said, "What is most needed at the present time is not so much more research but a more general application of the results already at hand" Our knowledge of the epidemiology of tuberculosis, while not complete, is sufficient for a comprehensive campaign against it I cannot agree with Landis and Kaufman, who say, "We know very little about its etiology" What we know should be taught the general public, which should be well grounded in the general knowledge of prevention

By a general knowledge of prevention is meant something more than the crude and elementary knowledge necessary to avoid gross infection It implies a deeper and more subtle insight into the principles of the conservation of bodily resources To properly acquire such a knowledge, an intelligent people must be carefully instructed by well-trained teachers thoroughly versed in all the principles of preventive medicine and in complete harmony concerning the prevention, diagnosis and treatment of tuberculosis Such instructions cannot be accomplished in one generation It will take many years, but a good start has been made Comparing the present general knowledge of tuberculosis with that of twenty years ago, there is no reason to doubt that success will ultimately crown the work The public schools will naturally be one point of vantage for instruction This instruction will include a comprehensive knowledge of all the principles of hygiene The public must be taught to view with intelligent concern the common sources of tuberculous infection, to apportion properly the relative hazards encountered in ordinary daily life and to avoid the most important, to recognize the susceptible ages, the predisposing causes, the critical periods of tuberculous infection, to know the folly of inordinate efforts and the dangers of fatigue The layman of the future must possess as commonplace information the principles of the prevention of tuberculosis held in trust now by the most expert students of the disease

The application of our present knowledge of its epidemiology to the suppression of tuberculosis involves, first, the avoidance of gross infection, second, earlier diagnosis, and third, the prevention of predisposing causes The first needs only some modification of principles already widely applied and the mitigation of some unnecessary precautions The second embodies more than might at once appear to the casual reader The third embraces a vast multitude of considerations, some of which lie at the very foundation of modern society

THE AVOIDANCE OF GROSS INFECTION

Within recent years, frequent protest has been made against a rather common phthisiophobia, and it now seems probable that some current precautionary measures will be found unnecessary or at least unjustified Certainly we should abandon the idea of attempting the destruction of all tubercle bacilli and the isolation of all consumptives measures which were actually contemplated by some This subject, which has too long occupied the whole field, must be relegated to its proper place Unlimited protection should be given infants up to 2 years, preferably to 4, and as much later as possible Intensive work is necessary to accomplish this Public funds should be freely spent, both in the collection of necessary data (registration, etc) to make it practicable, and in providing measures for its execution When the new idea has taken practical form, we may expect an increase in the number of public nurseries and children's preventoriums We will witness a selection, for segregation in public sanatoriums and hospitals, of consumptives from families containing young children Laws will be passed applying to tenements, boarding houses and other community dwellings prohibiting the housing of young children with the tuberculous, and minimum hygiene requirements for the care of infants will be fixed by statute

It does not seem probable that vaccination against tuberculosis will ever become of great practical use The inoculation of young children with living tubercle bacilli will always be an exceedingly serious thing, although it is possible that allied but wholly nonpathogenic bacteria may be found to sensitize At present we should be content with absolute protection during infancy and, if possible, until the time when frequent periodic physical examinations are instituted

Only an extremely guarded exposure should be allowed until after puberty After that, safety will depend on other factors I freely admit that the practice of relying on accidental vaccination through casual exposure during childhood is an extremely unsatisfactory method of securing that degree of immunity which is considered by some to result therefrom in the adult We may one time find that adult tissue depends for its resistance to extraneous infection on other factors and that even first exposures after a certain age are not very dangerous (This matter was briefly referred to above) However that may be, expediency at present prevents us from hoping to protect children indefinitely from casual contact with the tubercle bacillus Protection from the pneumococcus, the meningococcus and pus organisms offer almost analogous problems

An attempt to segregate all consumptives is somewhat similar to an effort to destroy all rats in a plague-threatened city The task in both cases is unending, a fresh supply of advanced consumptives and of rats constantly appears Plague is best combated by rat proofing all buildings and food supplies, thereby making an ineradicable enemy innocuous and preventing his multiplication It involves a certain amount of toleration In the same way, when we have proofed society against conditions which beget tuberculosis, we may tolerate with equanimity a dwindling number of consumptives

EARLY DIAGNOSIS AND MORE INTELLIGENT TREATMENT

With proper treatment, those with very early cases of tuberculosis usually recover, those with advanced disease seldom do so Routine physical examination for the early detection of tuberculosis and other diseases seems almost certain to become universal A multitude of eminent men now stand sponsor for the idea A certain excellent organization (the Life Extension Institute) exists largely for the purpose of promoting such a policy A good beginning has been made It will be simple to effect it in the schools It would not be difficult to enforce it throughout life, just as the performance of other public duties is required The educational value of a complete physical examination (not inspection), made quarterly or at least semiannually during the entire school age, if accompanied by proper advice concerning its purpose, would have tremendous significance to the impressionable child and far reaching effects in later life

The difficulty of making an accurate positive or negative diagnosis of tuberculosis in children is well known, but a positive diagnosis will not always be necessary Any condition of ill health, malnutrition, anemia, chronic fatigue or fever in the presence of insanitary surroundings will call for appropriate relief The preventorium, the open air school, the school nurse, the family physician, the arm of the law to effect more radical changes when necessary, will provide the remedy When early diagnosis is made in adult life, necessary and intelligent provision to prevent the development of the disease as it is now clinically known must be at hand A diagnosis should be made at least a year, often several years earlier than now common The necessity for prolonged sanatorium treatment could then be often forestalled by a rest, a change of habits, a conservation of physical resources, by the simplest of hygienic measures This would be intelligent treatment The time may never come when human derelicts with advanced tuberculosis will not seek refuge in those havens of refuge now known as sanatoriums for the treatment of tuberculosis The weak, the badly advised, the ignorant, the indifferent and the vicious will always be with us But the time will surely come when some one will be held responsible for allowing the ordinary case of tuberculosis to progress beyond early incipiency before it is discovered

There is no easily applied test for clinical tuberculosis A negative physical examination is not conclusive, and a prolonged observation of the general health is often necessary It would appear that some perfected means of measuring fatigue or determining the vital capacity will offer the best solution of the difficulty With a proper standard of physical efficiency predetermined for each individual and adequately controlled, the time may come when the necessity for an accurate diagnosis of tuberculosis will not be considered important even in the adult In fact, that is the case now when physiologic abnormality from indefinite causes is encountered among those of sufficient means to meet general indications

Sickness insurance, toward which the country is said to be definitely moving, may be expected to provide opportunity for averting impending physical calamity when timely indicated Insurance such as described by Warren and by Schereschewsky and such as has been in times past successfully operated in Germany will be an indispensable part of the new propaganda It should be universal and compulsory among all of low economic status, and should be a provision for something more than mere hospital relief It will be an invaluable means of safeguarding against one of the end-results of poverty, a large number of otherwise helpless individuals

PREVENTION OF PREDISPOSING CAUSES

Other Diseases—It is well known that when measures are taken to prevent any one disease, the death rate from some others notably tuberculosis, is also affected The decline in the general death rate after typhoid eradicative measures known as the Mills-Reincke phenomenon finds some explanation in recent observations on the death rate among typhoid survivors, which was as 54 to 26 45 among normal people Of the deaths, 39 per cent were due, in the first three years after typhoid, to tuberculosis There is no disease, acute or chronic, which does not lend its influence to tuberculosis In measles and scarlet fever, allergy itself is temporarily lost, and resistance to the tubercle bacillus greatly lessened for several months In pertussis, pneumonia and influenza, the mucous membrane of the respiratory tract is often damaged, trauma of the pulmonary tissue occurs and other grave changes may result, leaving a vulnerable body Diabetes carcinoma, hookworm, malaria, chronic indigestion and dysentery, like typhoid, greatly impair nutrition and create conditions most favorable for the development of tuberculosis The further reduction of economic waste from serious sickness must also be considered

Every influence which increases the hygienic standard of living will therefore assist in reducing tuberculosis Vaccination, pure water supplies, sanitary privies, infants' milk stations, open air schools, multiplied public parks, dispensaries, hospitals and all laws and other measures calculated to control disease are adjuvants in the campaign against tuberculosis The physician will support, as he has always done, every movement to regenerate mankind, but it should be well understood that to eliminate the chief predisposing cause of tuberculosis the efforts of any one body of men will be futile

Stress—"Fundamentally sanitation and health are economic problems" The eradication of tuberculosis is largely an economic problem Stress is the predisposing cause paramount, and while the physician may perhaps ease the stress incident to unwise sanitary practices, and the moralist allay that due to vicious habits, the great causes of stress, before which all others dwindle into insignificance, belong to the economist and sociologist

The present surgeon-general of the army is quoted as advocating the single tax on land as a health measure, together with other similar radical measures, which may not find general acceptance The suggestion at least emphasizes the great importance now placed on economic conditions in controlling disease

To eradicate tuberculosis we must combat poverty itself and the causes of poverty Society must be partially reconstructed A greater humanity and a truer wisdom must prevail Our humanity and our wisdom may not be equal to the problem Human progress is not assured, and it is by no means certain that tuberculosis will ever be completely elminated If the poor are always to be with us, it seems probable that there will always remain, in spite of all direct methods of combat, a residual tuberculosis proportionate to the amount of physical stress which always accompanies poverty

---

Infant Mortality as an Index to Civilization—Sir Francis d'Ivernois observes that, "if the various states of Europe kept and published annually an exact account of their population, noting carefully in a second column the exact age at which the children die, this second column would show the relative merit of the government, and the comparative happiness of their subjects A simple arithmetical statement would then perhaps be more conclusive than all the arguments that could be adduced"—Malthus, Essay on Population (1789)

THE UROCHROMOGEN REACTION AS AN AID TO PROGNOSIS

IN PULMONARY TUBERCULOSIS AND NONTUBERCULOUS DISEASE

ALEXANDER M BURGESS, M D
Pathologist and Assistant Visiting Physician, City Hospital
PROVIDENCE, R. I

The following communication presents a study of the relation of the occurrence of urochromogen reaction in the urine of tuberculous and nontuberculous patients to the stage of the disease present, and to the ultimate prognosis The work has been carried out primarily with a view to investigating the reaction in advanced tuberculosis, and has been done in the Tuberculosis Department of the Providence City Hospital In addition, however, the test has been adopted as a routine on all urines coming to the laboratory from the other departments of the hospital, which deal principally with cases of diphtheria, scarlet fever and measles The number of tests carried out in studying 171 patients suffering from advanced tuberculosis was 469, in studying 650 cases of nontuberculous disease, 1,030 tests

The test is performed as follows To 5 c c of urine in a test tube, 10 c c of tap water are added, and mixed by being poured into another tube and back several times The mixture is divided equally between the two tubes, and to one of them, 3 drops of a 1 1,000 solution of potassium permanganate are added The other tube serves as a control A positive reaction is indicated by the appearance, in the first tube, of a distinct and persisting yellow color If the yellow is pale, or does not persist, the reaction is regarded as doubtful or suggestive

The test for urochromogen in the urine was introduced by Moritz Weisz in 1911, after an exhaustive study of the diazo-reaction of Erhlich He concluded that the latter reaction depends on the presence of urochromogen, the mother substance of urochrome, which is the normal coloring matter of the urine He noted further that another substance is present at times, evidently an antecedent of urochromogen, and that this substance fails to give the diazo-reaction This fact, in his judgment, helps to explain the fickleness of the latter test Both urochromogen and its antecedent he then found to give a yellow color on the addition of a few drops of a weak solution of potassium permanganate This test is therefore much the more reliable in the detection of cases in which the normal formation of urochrome has failed to take place

Weisz believed that defective oxidation of urochromogen to urochrome was due in tuberculosis to massive doses of tuberculous toxin, or to marked decrease in resistance to such toxin A positive test must, therefore, indicate an advanced and dangerous lesion The grave prognostic import of a repeatedly positive diazo-reaction has been generally recognized since it was pointed out by Ehrlich more than a quarter of a century ago Similarly, in regard to the urochromogen test, which depends on the same condition as does the diazo-reaction, Weisz believes that a positive test, persisting after the institution of treatment, denotes a hopeless prognosis, and its constant appearance means rapid progress to a fatal end In this country, the reaction has been investigated by Heflebower[1] and by Metzger and Watson[2] The conclusions of these investigators in the main agree with those of Weisz In addition to his opinion in regard to the gravity of a positive test, Heflebower states that "a constant negative result points to a case that is progressing favorably," and similarly Metzger and Watson conclude, "its [the reaction's] absence is generally, though not invariably (regardless of how sick the patient seems) of good prognostic import" Ferrannini[3] also believes that "a faint and inconstant reaction offers a favorable prognosis"

As regards nontuberculous conditions, the urochromogen reaction is apparently of no value in determining the prognosis Bruni[4] has reported a number of tests in nontuberculous cases, and in patients with bone and joint tuberculosis He regards the results of these tests as valueless in diagnosis and prognosis[5]

Among the 1,030 reactions in nontuberculous cases included in this report, there were but twenty-six positive A study of the case records of the patients whose urines showed the presence of urochromogen at any time revealed nothing remarkable as regards the severity or the course and ultimate outcome of the disease in each case It was impossible to discover any relation between the clinical condition present and the occurrence of a positive reaction Every case which showed a positive or doubtful test for urochromogen, and in which subsequent reactions were performed, showed a prompt disappearance of the substance from the urine, with the remission of the acute clinical symptoms The conclusion is, therefore, justified that in cases of nontubercular disease studied the urochromogen test proved of no clinical value

SUMMARY OF TESTS IN TUBERCULOUS CASES

1 Cases Showing One or More Positive Reactions Of the 469 tests on 171 patients with advanced tuberculosis, ninety tests were positive Of the 171 patients, those who showed a positive test at least once during the course of the disease were fifty-five in number

The outcome of these fifty-five cases is given in the accompanying tabulation

OUTCOME IN FIFTY FIVE CASES OF TUBERCULOSIS SHOWING A POSITIVE UROCHROMOGEN REACTION

Outcome	No of Cases
Died within 3 months	30
Died within 6 months	6
Died after more than 6 months	1
Left hospital condition worse	5
Left hospital condition unrecorded	2
Still alive after less than 3 months	8
Still alive after 3 to 6 months (condition worse)	1
Still alive after 10½ months (much worse)	1
Still alive after 10½ months (unchanged)	1

Thus, of patients showing at least one positive reaction, more than 50 per cent have died within three months, and only three, as far as is known, have lived more than six months One of these three died early in the seventh month, and another, after ten and one-half months, is rapidly failing The third is still alive at the end of ten and a half months, and her condition has not materially changed Since her positive test, Nov 1, 1914, her urine has been negative to six subsequent tests She is the only patient whose condition either has remained stationary or has improved, who has not showed a negative reaction at every examination

2 Fatal Cases In all, 169 tests have been carried out on the urine of fifty-eight patients who have subsequently died Of these tests sixty-six were positive, eighty-two negative and twenty-one doubtful In twenty-six of these patients, the urine was examined at least three times at varying intervals before death Only four of this group showed a constantly positive, and three a constantly negative, reaction In the rest there was noted a change from positive to negative reaction (or to doubtful) or the reverse, without any evidence of variation in the continuously unfavorable progression of the clinical course of the disease This change in the reaction was seen to occur in some instances even from day to day Evidently, even in the rapidly fatal cases the excretion of urochromogen is rarely continuous, and it is probable that none of the cases would fail to show an occasional reaction if the urine from each passage were tested separately Though it is probable that every such patient excretes urochromogen at times, it is not at all rare for repeated tests to be negative, despite the evident rapid approach of a fatal issue The obvious conclusion is that a negative reaction does not necessarily indicate that the tuberculous process has become quiescent, or that in the absence of clinical improvement, such a reaction is to be considered as a favorable sign Notwithstanding the opinion of certain other observers to the contrary, a negative test appears to be of no value as regards prognosis

It is interesting, however, to note that with the exception of the one woman mentioned above, every patient whose clinical condition has remained stationary, or has shown improvement, has exhibited a negative reaction at every test On the other hand, the appearance of urochromogen in the urine of a person in whom the disease has been at a standstill or but slowly progressing has usually accompanied definite clinical evidence of renewed activity of the lesion, and has always indicated the approach of a rapid decline to a fatal issue

CONCLUSIONS

1 The urochromogen reaction is of no value in determining the prognosis in diphtheria, scarlet fever and measles

2 In advanced tuberculosis, a positive reaction indicates a severe and actively progressing lesion which will probably lead to death in from three to six months

3 In advanced tuberculosis, a negative reaction is of no value

192 Waterman Street

Rural Health and "Patent" Medicines—*As the schools* grow progressively in adjustment successive generations will have the higher standards But while this transformation as an outlook is encouraging we cannot but realize the dire need of present action Why can we not teach the farmer and his wife the danger of the use of Peruna Swamp Root, or Madam Winslow s Soothing Syrup? Why can we not reach the rural home with the good tidings of how to escape typhoid fever, hookworm disease or malaria? If we can the obligation is ours—Oscar Dowling *American Journal of Public Health* May 1915

---

[1] Heflebower, R. C. Am Jour Med Sc. 1912 cxliii 221 abst. THE JOURNAL A. M A Feb 24 1912 p 587

[2] Metzger Jeremiah and Watson S H An Aid to Prognosis in Pulmonary Tuberculosis THE JOURNAL A M A June 13, 1914 p 1886

[3] Ferrannini A Riforma med 1915, xxxi 479 abstr THE JOURNAL A M A. June 12, 1915 p 2029

[4] Bruni A Gazz. d. osp 1915 xxxvi 401 abstr THE JOURNAL A. M. A. May 15 1915 p 1693

[5] Considerable research is also reported by Balduzzi A. and Ballero A Gazz. d osp 1914 xxxv No 133 abstr THE JOURNAL A M A Jan 23 1915 p 377

THE SYNDROME OF TOXEMIA

AN EXPRESSION OF GENERAL NERVOUS DISCHARGE THROUGH THE SYMPATHETIC SYSTEM

FRANCIS M POTTENGER, A M, M D, LL D
MONROVIA, CALIF

The human body under normal conditions has a perfect physiologic balance One part or organ is in a state of perfect, balanced relationship with every other part or organ A disarrangement of this equilibrium produces pathologic conditions and dysfunction These derangements are indicated by symptoms and signs, which, when grouped, give us a picture of a definite disease

The explanation of well-known symptoms is often wanting, the practitioner being compelled to learn them as a part of the syndrome belonging to a certain disease instead of being able to point out the exact force operating to produce them An etiologic classification of symptoms leads us to a better understanding of the disease in question and facilitates diagnosis

In analyzing the symptoms and physical signs in pulmonary tuberculosis, I found that they could all be classified etiologically in three groups 1, those due to toxemia, 2, those due to reflex action, and, 3, those due to the tuberculous process per se, as in the table

ETIOLOGIC CLASSIFICATION OF SYMPTOMS AND PHYSICAL SIGNS IN TUBERCULOSIS

Group 1—Toxemia	Group 2—Reflex Action	Group 3—Tuberculous Involvement per se
Malaise	Hoarseness	Frequent and protracted colds
Lack of endurance	Tickling in larynx	Spitting of blood
Loss of strength	Cough	Pleurisy
Nervous instability	Circulatory disturbances	Sputum
Lack of appetite	Digestive disturbances	Temperature
Digestive disturbances	Loss of weight	
Loss of weight	Chest and shoulder pains	
Rapid pulse	Flushing of face	
Night sweats	Apparent anemia	
Temperature		
Anemia		

In this manner we classify some twenty-five or thirty symptoms which belong to tuberculosis in three groups so that each symptom in the individual group is due to a common etiologic factor Such a classification simplifies diagnosis It offers an explanation for the fact, which has long been observed, that symptoms are variable, in that the same ones are not always present, and when present, are not always equally prominent

When studying these three groups of symptoms I was impressed with the fact that there is nothing distinctive of tuberculosis in that group which is due to toxemia The same symptoms could be due, as well, to an infection of the tonsil, the prostate, the fallopian tube, a toxemia from intestinal stasis or an acute infectious disease They are, in short, a part of the syndrome of infections in general I was further impressed with the fact that the second group, those of reflex origin, all point to organs other than the lung, but that they belong to organs which are supplied by the vagus and sympathetic nervous systems, both of which supply the lung *A further analysis of the group which is due to toxemia shows that these symptoms are identical in distribution and effect with a general discharge of nervous impulses through the sympathetic nervous system*

To make this clearer it is necessary to recall that the autonomic nervous system supplies impulses to structures which are not controlled by the will These are the organs supplied by smooth muscle such as the stomach, intestines, blood vessels, ducts of glands, and also certain organs possessing striated muscle fibers such as the heart, the beginning and terminal portions of the alimentary canal, and the generative organs

The autonomic system is divided into three groups 1, the cranial and bulbar, which are spoken of as the vagus system, 2, the thoracic and upper lumbar, known as the sympathetic system, and, 3, the lower lumbar and sacral, known as the sacral system

The vagus system is the system which conserves life It contracts the pupil, increases salivary secretion, slows the heart beat, causes an increase of gastric and intestinal juices, and furnishes motor power for the gastro-intestinal tract The sacral system controls the emptying of the lower bowel and bladder and presides over the generative functions The sympathetic sends branches to all organs supplied by the vagus and sacral systems, and where the fibers from these different systems meet there is an antagonistic action between the sympathetic and other two systems If the sympathetic stimulation is sufficiently strong, it overcomes the vagus and sacral tonus If this control is only momentary or of short duration, as it is in fear and anger, as shown by Cannon,[1] the general strength of the individual is increased He possesses for the time being a power greater than normal On the other hand, if this sympathetic control continues, a general inhibition of function in the organs supplied by the sympathetic system takes place and the individual's powers suffer a diminution, thus, the dry mouth, lack of desire for food, stoppage of digestion and rapid heart's action, which are temporary in the presence of the major emotions, are emphasized and prolonged during toxemia and are expressed as a more or less continuous absence of appetite, coated tongue, retarded digestion, constipation, rapid heart action and tendency to perspiration

While impulses may be carried directly from the brain and cord to the skeletal muscles, insuring immediate and selective response, and through the vagus and sacral systems through the intervention of a single ganglion, causing response limited to a certain organ, in the case of the sympathetic nervous system numerous ganglia are interposed and the response is shown in widely distributed parts These ganglia act as modifiers or transformers of the impulse and make its distribution general, which accounts for the fact that so many organs and parts are involved in sympathetic irritation

Whether a toxemia acts wholly, centrally, on the sympathetic nervous system is open to some question While the expression is that of general sympathetic discharge, yet we must bear in mind that it is possible that this may be partly due to, or at least partly prolonged by, certain internal secretions which are engendered by, the same stimulation as that which produces the general sympathetic stimulation Cannon has shown that the emotional states such as anger and fear, while being an expression of general sympathetic discharge, may be kept up by adrenin in the blood The adrenal glands are supplied through the splanchnics, and impulses which cause a general sympathetic stimulation stimulate these glands also A minute amount of adrenin poured into the blood stream has the effect of producing a prolongation of the condition which is brought about by direct sympathetic stimulation, thus adrenin will cause a dry mouth, impaired digestion, intestinal stasis and a rapid heart That toxemia, like the emotional states, acts by stimulating the sympathetics and by prolonging the action through the stimulation of the adrenals seems quite certain It may also be found on further study that disturbances in other internal secretions may have a part in this general picture, but, even should this prove true, it will not alter the fact that the syndrome of toxemia is an expression of general sympathetic discharge

---

[1] Cannon, W B Bodily Changes in Pain, Hunger, Fear and Rage Appleton, New York, 1915

SOFT EYEBALL IN DIABETIC COMA *

DAVID RIESMAN, M D
PHILADELPHIA

Quite accidentally I tried one day the ocular tension in a case of diabetic coma, and was startled to find the eyeball of almost doughy consistency On looking over the literature of diabetes I found that this symptom was first described by Krause[1] in 1903 He did not observe it in simple diabetes or in cases of acidosis unassociated with coma In experiments on animals with acetone, diacetic acid and oxybutyric acid he failed to produce hypotonia of the eyeball, and he did find it in a dog rendered diabetic by pancreatectomy Since Krause's first paper, few articles on the subject have appeared Heine,[2] an ophthalmologist, refers to it in several publications The observations of Lea Gite Schutz[3] are the most accurate, for they were made not with the finger but with the tonometer of Schiötz She found that the tension varied from day to day, but that at the height of the coma it was extremely low or even nil Few of the systematic writers speak of the symptom Lepine[4] merely mentions it, referring to the papers of Krause and Heine Among the many works on ophthalmology that I consulted, only the small monograph of Groenouw,[5] the book of Romer[6] and the article of Heine[7] speak of it

Hertel[8] made a number of interesting experimental observations bearing on the symptom He found, for example, that the electric conductivity of the soft eyeball was raised, showing that osmotic changes had taken place By lowering the molecular concentration of the blood of animals, he succeeded in producing a hypotonia similar to that of diabetic coma in man The degree of hypotonia could be varied by modifying the amount of substance introduced and the time consumed in its introduction Various sodium salts, urea and sugar were the agents employed Ehrmann[9] brought about hypotonia by injections of sodium butyrate and sodium isovalerianate, but in Hertel's opinion the hypotonia is not a specific effect of these salts as the same result can be obtained with sodium chlorid, sodium phosphate, urea and sugar Chemical examination of the eyes showed that the substances injected had penetrated into the eyeball

The soft eyeball in diabetic coma is not due to blood pressure changes, it is also not an agonal phenomenon, for it is not present in persons dying from other causes Whether the ketone bodies play a part in its production is not definitely established In acidosis without coma the symptom is not present As, however, in acidosis with coma the acetone bodies are probably retained in large quantities, they may have a share in the production of the soft eyeball In one of my cases of diabetic coma, in which ketone bodies were not found in the urine at any time, the soft eyeball was not present In a recent case of diabetic coma in my care, that of a woman aged 41, with intense acidosis, the intern and I tested the tension repeatedly and found that it varied, as shown by the following records

Oct 26, 1915, on admission, the patient is conscious but lethargic, breath exhales a strong fruity odor The urine contains sugar and diacetic acid in large quantities Tension of eyeballs practically normal

October 28 the patient is in coma The pupils are contracted, the tension is greatly diminished in both eyeballs

October 29, the patient is profoundly comatose The tension of the eyeballs is somewhat greater than yesterday, but still markedly below normal

Krause,[10] who observed it in twenty-two cases of coma, was of the opinion that the soft eyeball was a bad prognostic sign, but Schutz found that in one of her three cases recovery took place Regardless, however, of prognostic value, the sign is important from the diagnostic standpoint Heine[7] goes so far as to say that whenever found in a case of coma it proves the coma to be diabetic Further observations are necessary before such a strong statement can be fully accepted

As to the constancy of the sign in diabetic coma I cannot speak, in the last three cases of coma under my observation — the only ones in which I tested for it — I found it twice One would hardly expect it to be present in every case, for constant symptoms are rare not only in diabetes but in all diseases

1715 Spruce Street

A STRANGULATED EPIGASTRIC HERNIA *

GATEWOOD M D
Resident Surgeon, Presbyterian Hospital
CHICAGO

Any protrusion of tissue through a defect in the linea alba between the ensiform cartilage and the umbilicus is designated an epigastric hernia Most of these hernias occur in the first 3 inches above the umbilicus, while those near the xyphoid are exceedingly rare The relative frequency of epigastric hernia when compared with other types varies according to different statistics from 0 19 per cent (Macready[1]) to 1 37 per cent (Berger[2]) Coley[3] reports twelve cases from the Hospital for Ruptured and Crippled These were observed in 3,383 cases of hernia (0 33 per cent) In the last 1,000 hernia cases in which operation was performed at the Presbyterian Hospital of Chicago, there have been nine epigastric hernias, or 0 9 per cent.

Four types or varieties are usually described The most common type is the protrusion of a small mass

---

* Read before the Section in Medicine of the College of Physicians of Philadelphia Nov 22 1915

[1] Krause Ueber ein bisher nicht bekanntes Symptom bei Coma diabeticum Verhandl d 21 Kong f inn Med Leipzig 1904 p 439

[2] Heine Ueber Augenstorungen im Coma diabeticum Versamml d ophth Gesellsch Heidelberg 1903 Ueber Lipaemia retinalis und Hypotonia bulbi im Coma diabeticum Klin Monatsbl. f Augenh. 1906 ii 451

[3] Schutz L. G Untersuchungen über den Augendruck beim Coma diabeticum Inaug Diss Strassburg 1913

[4] Lépine Diabète Sucré Paris 1909 p 578

[5] Groenouw Augenleiden bei Diabetes mellitus Halle, 1907

[6] Romer Lehrbuch der Augenheilkunde Berlin 1910 p 647

[7] Heine Lehrbuch der Augenheilkunde T Axenfeld 1915 p 755

[8] Hertel Munchen med Wchnschr 1913 p 1191

[9] Ehrmann quoted by Hertel (Footnote 8)

[10] Krause Deutsch. med Wchnschr 1907 p 84

* From the Surgical Clinic of Rush Medical College

[1] Macready quoted from Keen s Surgery 1912 iv 90

[2] Berger M Paul Traite de Chirurgie 1892 p 797

[3] Coley W B Keen s Surgery 1913 vi 588

of subperitoneal fat without any sac The mechanism of production of this variety has been described by Moschowitz, who shows that the subperitoneal fat is usually derived from that between the peritoneal layers of the falciform ligament of the liver Such a hernia is always small and appears as a protrusion of fat through a short transverse slit in the linea alba, following the course of a small perforating blood vessel The same writer states that he rarely diagnoses a true hernia with a sac prior to operation The second type includes in addition to the subperitoneal fat a process of the peritoneum attached to it, making a true sac, but without contents The third variety resembles the second with the addition of omentum in the sac The fourth and least common type contains intestine as well as omentum

Strangulation of epigastric hernias is exceptionally rare Moschowitz[4] reports one case, and after a careful analysis of the literature, he has been able to find only ten others Small intestine was contained in six of these eleven cases Transverse colon was present in four Omentum and strangulated bowel were found in four cases and omentum alone in one It will be noted that the stomach was not present in a single case, although protrusion of this viscus into the hernial sac is often assigned as one of the causes of the distress complained of by the patient It is much more likely that such distress is due to traction on the parietal peritoneum, or to increased pressure within the peritoneal sac

The symptoms of epigastric hernias vary greatly In many cases there are practically no symptoms, while in others nausea and vomiting, dragging pains in the epigastrium, and distress after meals may be severe enough totally to incapacitate the patient The symptoms in cases of strangulation do not differ from those of any other hernia similarly strangulated

The diagnosis is usually not very difficult Lipomas occurring in this region can usually be demonstrated to have no connection with the abdominal cavity Strangulation of the contents of an epigastric hernia may simulate an abscess in the anterior abdominal wall

The following case belongs to the fourth variety of hernias of the linea alba between the ensiform and the umbilicus

History—A S, man, aged 40, a Slav, and a laborer by occupation, entered the Presbyterian Hospital, April 9, 1915, on the service of Dr A D Bevan Three days prior to admission, the patient was seized with a continuous severe pain in the upper abdomen, and a swelling about as large as a lemon was noticed midway between the umbilicus and the xyphoid cartilage This mass had remained unchanged since first noticed, except that it had become very tender Vomiting began shortly after the onset of the pain, and had been almost continuous The patient complained bitterly of thirst, and stated that he had been unable to retain anything for three days A small lump in the epigastrium had been present since the patient was a child He stated that this appeared immediately after an accident in which a wagon passed over him He also described a number of somewhat similar attacks, none of which had lasted more than a few hours In each attack the above-mentioned swelling became larger and very painful

Physical Examination—The patient was a well-nourished man, retching and vomiting continuously There was an acetone odor to his breath His temperature on admission was 99.2 F, but his skin was cold and clammy The abdomen was moderately distended There was no fecal matter in the rectum About 2½ inches above the umbilicus, there was a firm ovoid mass measuring 2½ inches in diameter This mass was fixed to the abdominal wall in the median line, and was very tender to the touch The overlying skin was reddened, but this was attributable to the use of hot applications The diagnosis of strangulated epigastric hernia was made, and an immediate operation performed by Dr Bevan

Operation—Under novocain (1 200) and epinephrin chlorid (1 100,000) infiltration anesthesia, a transverse incision 6 inches in length was made 3 inches above the umbilicus The subcutaneous fat was carefully divided until a firm lemon-sized mass was reached This mass was freed of all fat down to its base It was found to be a hernial sac protruding through an almost circular aperture in the linea alba The diameter of this aperture was approximately 1 inch When the sac was opened, a small amount of dark brown fluid escaped The peritoneal lining was reddened, granular and lustreless Within the sac were almost 4 inches of small intestine, probably upper jejunum, in addition to some adherent omentum The bowel was brownish-black, but improved markedly in color after the constricting ring had been enlarged by a lateral incision A gray band 1½ inches long and one-fourth inch wide, which showed no tendency to change color, was covered over by Lembert sutures and the bowel replaced The adherent omentum was ligated and resected There was a small mass of fat adherent to the upper part of the sac. This may have been subperitoneal fat from the falciform ligament, though no effort was made to determine its origin Closure was made by the Mayo[5] method, imbricating from above downward by means of three mattress sutures of heavy catgut The free margin of the flap was sutured to the aponeurosis below by means of interrupted catgut A small gutta percha drain was placed in the center of the wound, and closure made with interrupted silk sutures Primary union was obtained, and the patient made a complete recovery

Occasionally these hernias are confused with the umbilical type, which are much more common The extreme rarity of strangulation of the epigastric variety, I believe, justifies this brief report As far as I have been able to ascertain, this is the twelfth case of strangulation of an epigastric hernia to be reported, and the fifth case in which both omentum and intestine were present

A NEW METHOD OF INTESTINAL ANASTOMOSIS

WITH A STUDY OF THE INTESTINAL MOVEMENTS AFTER ITS USE [*]

GOLDER L McWHORTER, SB, MD
Teaching Fellow in Surgery, University of Minnesota Medical School
MINNEAPOLIS

There is considerable difference of opinion as to the choice of methods of intestinal anastomosis Some of the advantages claimed for the lateral method are First that it permits approximation of broad surfaces of serous membrane, second, that a union can be made without regard to the relative size of the ends of the cut intestine, third, that the opening can be made as large as desired

Although the opening can be increased in size, as advised by Abbe,[1] there is an extensive cutting of the circular muscular fibers and lack of mechanical reestablishment, which necessarily impairs the peristaltic activity

---

[4] Moschowitz, A V Surg, Gynec and Obst, October, 1914, p 520

[5] Mayo, W J Further Experience with the Vertical Overlapping Operation for the Radical Cure of Umbilical Hernia, The Journal A M A, July 25, 1903, p 225

[*] From the Department of Experimental Surgery, University of Minnesota Medical School

[1] Abbe, Robert Med Rec, New York 1892, xli, 365

Some of the disadvantages, as observed by animal experimentation, are that indigestible substances, bones, straw and hair (Senn,[2] Reichel[3]) may accumulate in the blind proximal end of the bowel The distal end may become invaginated until this portion fills the opening and produces obstruction (Cannon[4] Ashton and Baldy,[5] Robinson[6]), especially if the blind ends are long and not carefully fixed There may also be danger of interference with the blood supply to the blind ends if too little of the bowel is left beyond the opening (Corbett[7]) Cannon and Murphy[8] found stasis in the region of the lateral anastomosis as determined on animals which were kept for four days after operation on a waste-free diet and to which they gave an admixture of bismuth in thin boiled starch, observations being made with the Roentgen ray They found stasis of this fluid, even after twenty-four hours, in the region of the anastomosis after all of the other unabsorbed material was in the colon Stasis, as described above, was usually found in animals after from ten days to two weeks They therefore thought it evident that the two united intestinal loops did not act in unison to propel the food, which in the region of the dilated lumen was pushed forward by peristalsis in the intact intestine, acting on the food proximal to the anastomosis That there is a tendency of all lateral anastomoses to undergo cicatricial stenosis is generally recognized Bloodgood[9] has recently ascribed failures, when anastomoses were done in resection of atonic colons, to the two blind extremities becoming tense and painful diverticuli

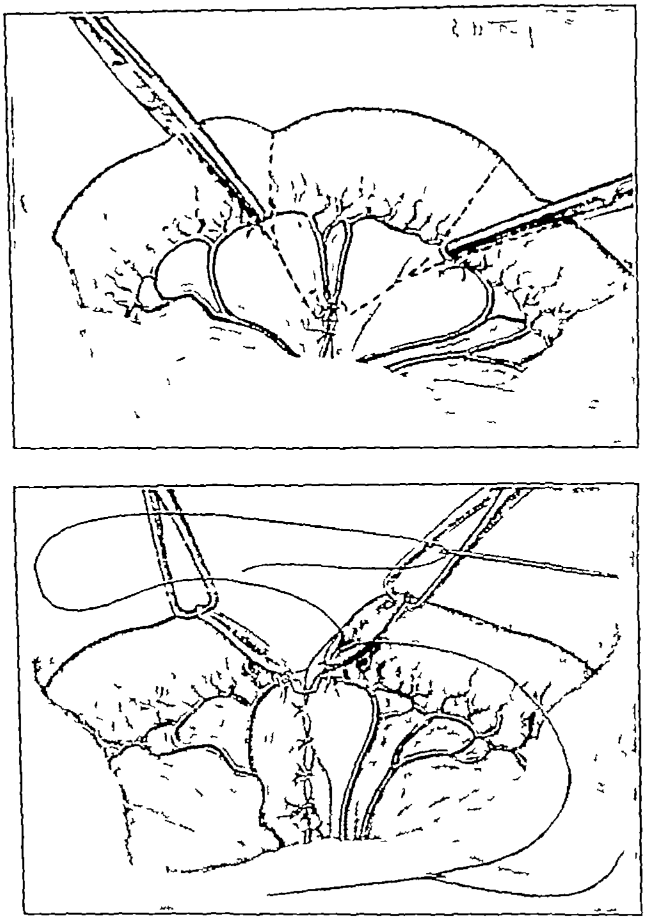


Fig 1—In the upper illustration the dotted lines between the clamps indicate the direction of the usual division of the intestine. The clamps are put on at a 45-degree angle. The dotted lines on the healthy bowel side of the clamps indicate the sites of division In the lower illustration the mattress suture to occlude the uncovered area has been introduced with a needle on both ends to approximate the richer vascular portions first

As to the end-to-end anastomosis, it may be more quickly done Cannon and Murphy[8] were able to observe at no time a stasis of food after the end-to-end union of the severed bowel, and therefore recommend this procedure in preference to the lateral anastomosis because of the rapid resumption of normal function Their observations were made on cats and performed with the Connell suture Kuttner, Senn[2] and Gibson[10] asserted that it is not possible to get this wide contact of serous surfaces, which is desired, without narrowing the lumen of the bowel so much that obstruction is probable, or that stenosis due to contracture or to a diaphragm may result There is also the possibility of producing ischemic necrosis from interference with the circulation of the mesenteric vessels The danger resulting from insufficient approximation of serosa is indicated by a case reported by Elsberg[11] in which the end-to-end anastomosis was found, at the secondary operation performed at the end of ten days, to have failed at one point

Other methods of intestinal anastomosis have not come into general use, and some of them are open to serious objections Some of the better known are perhaps those of Maunsell,[12] Cheattle,[13] Ferguson,[14] Grant with Turk's modification,[15] Soresi,[16] Horsley,[17] Maury's[18] twine triangular stitch, and Bloodgood's[19] side-to-side ends together, and there are numerous others[20] The artificial aids, according to Reder,[21] may be convenient in occasional conditions of intestinal surgery, and they are usually either dissolved or passed In the end-to-side or lateral implantation, Reder states that the technic is more difficult than the end-to-end or lateral union, and besides has the serious drawback of frequently resulting in stenosis

On account of the foregoing objections to these methods of intestinal union, I have modified the technic of the end-to-end anastomosis and devised a new method Before I describe the technic, some of the other modifications may be mentioned

---

[2] Senn Ann Surg vii, 13

[3] Reichel quoted by Cannon and Murphy Ann Surg, 1906, xliii 519

[4] Cannon, W B The Mechanical Factors of Digestion, p 140

[5] Ashton and Baldy Med News, 1891 lviii 235

[6] Robinson, F B Med Rec. New York xlii 168

[7] Corbett J F Personal communication

[8] Cannon and Murphy Ann. Surg 1906 xliii 512

[9] Bloodgood J C. Condition of Patients After Partial or Complete Resection of the Colon abstr The Journal A. M A July 10, 1915, p 193

[10] Gibson Ann Surg lii 116

[11] Elsberg Ann Surg lii, 116

[12] Maunsell quoted by Moynihan Abdominal Operations 1914, i

[13] Cheattle Lancet London 1897, i 1403

[14] Ferguson Am Gynec. and Obst. Jour 1900, xvi 468

[15] Turk Surg Gynec. and Obst., xvi, 324

[16] Soresi Surg Gynec. and Obst., xv, 110 ibid 1915 xx, 225

[17] Horsley in Fowler Treatise on Surgery, 1907, ii 65

[18] Maury Ann Surg June, 1905, p 914

[19] Bloodgood Ann Surg February, 1909, p 161

[20] Lundholm E. M. A New Instrument for Intestinal Anastomosis The Journal A. M A. Sept. 27 1902 p 769 Gilbert Med Rec. New York 1904 lxvi 957 LaPlace Philadelphia Med Jour 1898 i, 1120 Downes Philadelphia Med Jour 1899 iii 285 O Hara M G Ann Surg 1901 xxxiii 170 French Am Med 1902 iv 90 McGraw T A. Upon the Use of the Elastic Ligature in the Surgery of the Intestines The Journal A M A. May 16 1891 p 685 Senn William Pressure Clamp for Lateral Anastomosis The Journal A. M A. April 20 1907, p 1350

[21] Reder Lancet Clinic, 1914, cxii, 662 abstr, Surg Gynec. and Obst. May, 1915 p 490

In the oblique enterorrhaphy described by R T Morris[22] and M E Connell,[23] with the 180-degree mesenteric twist, the ends are cut more or less obliquely to give a larger internal diameter and lessen the danger of gangrene and stenosis F G Connell[24] cut the ends slightly convexo-oblique in some experimental unions Madelung[25] was the first to cut the ends obliquely, in the end-to-end unions, to avoid gangrene and give a larger lumen Parker and Kerr[26] cut the ends of the bowel obliquely, uniting them with their basting stitch method They state, however, that after making the union, absolutely no angulation was apparent, and even at later removal of these specimens, the bowel at the site of suture was apparently straight As the method of cutting the ends more or less obliquely is not new, though perhaps not emphasized enough now, the application of it, in securing a right angle result, may aid in impressing its value

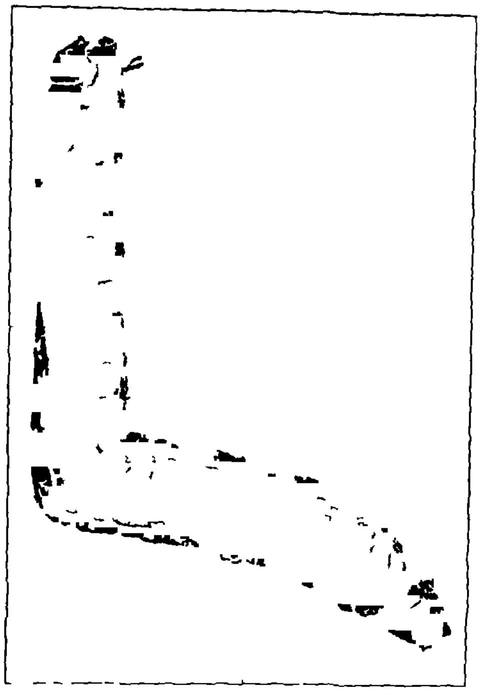


Fig 2 —This specimen with a right angle union (Experiment 3) was removed sixty seven days after operation The angle of the union when removed was practically the same as when the operation was performed There were no adhesions

The technic of the right angle is modified from the circular end-to-end, in that the bowel is cut at an angle of 45 degress leaving the oblique mesenteric sides The mesenteric portions are approximated first by a mattress suture, which when tied on the inside occludes the uncovered area of the bowel and invaginates the edges With a needle on each end of this suture, they are continued around so that this mesenteric half is first sutured accurately with a hemostatic buttonhole stitch These are then continued as Connell sutures, ending at that portion of the bowel opposite the mesentery A Dupuytren's stitch is now taken outside the first stitch to approximate a wide area of serosa A few stitches join the mesenteries If the ends are of unequal size, one may be cut more obliquely or an incision may extend up opposite the mesentery, as Curtis[27] suggested in the end-to-end union Where a lateral implantation is desired, the end may be cut obliquely as above (Figs 1, 2, 3 and 7) The right angle union has advantages over the usual end-to-end in that it not only has a richer blood supply, but the angle of the blood vessels toward the union lessens the danger of the second row of sutures causing gangrene of the inverted margin of the bowel There is, therefore, less danger of leakage at the suture line, and also of contraction and stenosis This can be done as simply as the circular union Senn[2] asked, "Does simple flexion, even if acute, without diminution of the lumen of the bowel, give rise to symptoms of obstruction?" He experimentally observed that it did not There is a flexion of the bowel, perhaps to more than a right angle, in the "elbow anastomosis" of Jeannel,[28] in which in an injury to the bowel opposite the mesenteric portion that near the mesentery is left intact and angular union effected

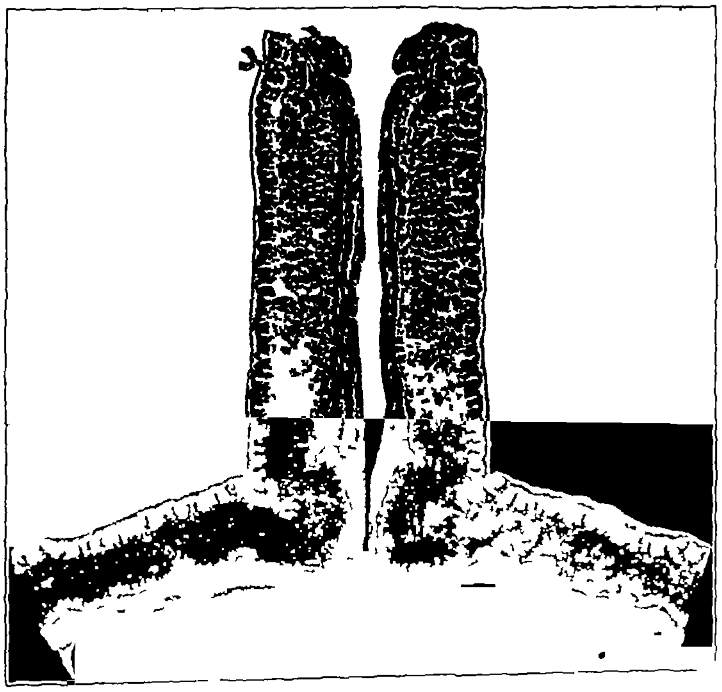


Fig 3 —This specimen of a right angle union from Experiment 3 sixty seven days after operation is shown after having been divided longitudinally The lumen at the union is distinctly larger than the remainder

C C, aged 8 years, entered the University Hospital, Jan 6, 1915, and was operated on for a ruptured gangrenous appendix with drainage of abscess February 6, he returned with symptoms of obstruction, for which an enterostomy was done. March 13, he was operated on by Dr Ritchie for closure of the enterostomy This was dissected out, and conditions requiring a small resection found, the right angle technic described above was used The patient made an uneventful recovery, and was discharged, April 3 July 12, 1915, the boy was in perfect health and gaining in weight

In the new method of notch enterorrhaphy, the area to be resected is decided on, soft jawed clamps covered with rubber may be applied to prevent the intestinal contents escaping, and the field is packed off with moistened gauze The mesenteric vessels supplying the bowel to be resected are ligated Double clamps are put on the ends of that portion to be resected The bowel is cut between the clamps with a cautery, leaving them temporarily on the ends to be united The ends of the bowel that are to be united are overlapped for union as far as desired, restoring the direction of peristalsis The overlapping of about 2 inches is usually satisfactory A Dupuytren's stitch taken along the sides near the mesenteries approximates them The clamps temporarily holding the ends of the bowel closed may now be cut away, leaving healthy bowel ends The sides of the intestines which approximate each other are nearly cut away, beginning at the end of the lumen, leaving a

---

22 Morris, R T, in Smith, Stephen Operative Surgery, 1887, p 502
23 Connell, M E Med Rec, New York, xlii 335, ibid, xliii, 125 413
24 Connell, F G Philadelphia Med Jour, 1899, i, 37
25 Madelung Arch f Klin Chir, 1881 1882, xxvii, 277
26 Parker and Kerr Bull Johns Hopkins Hosp, xix, 136
27 Curtis, B F Med Rec, New York, xli, 419
28 Jeannel, in Moynihan Abdominal Operations, 1905, p 364

small edge of the side near the mesentery for the approximation of serosa by an inner stitch through all of the coats of the bowel. A similar width of the bowel is left on the convex side for approximation and invagination by sutures. These notched sections of bowel left should have rounded corners in order that they may be accurately approximated, though nearly a rectangle has been removed. A hemostatic buttonhole stitch is started on the side near the mesentery through all of the coats of the bowel, and continuing around the other side as a Connell suture invaginating their edges. The Dupuytren's stitch previously started is now continued around the first suture line, approximating a safe margin of serosa and completely reestablishing the bowel both as to shape and size. The edges of the two overlapping mesenteries are stitched down with a few interrupted stitches (Figs 4, 5, 6 and 7).

There are very definite advantages to be gained in the notch intestinal anastomosis in that a large opening can be secured as well as one that functions satisfactorily. Therefore, there is no danger from stenosis and contracture. There is an excellent mechanical and a good physiologic union of their fibers. There are no blind ends, which may be sources of danger, as shown above, in the lateral anastomosis, even though later the ends may atrophy and the lateral opening become more axial (Edmunds and Ballance[29]). There is a good blood supply, as each notched end has its own mesentery intact. There is less danger of interference with the blood supply of the mesentery from injury than in the end-to-end union, and no danger of injuring the blood supply to blind ends, as in the lateral union, which might result disastrously.

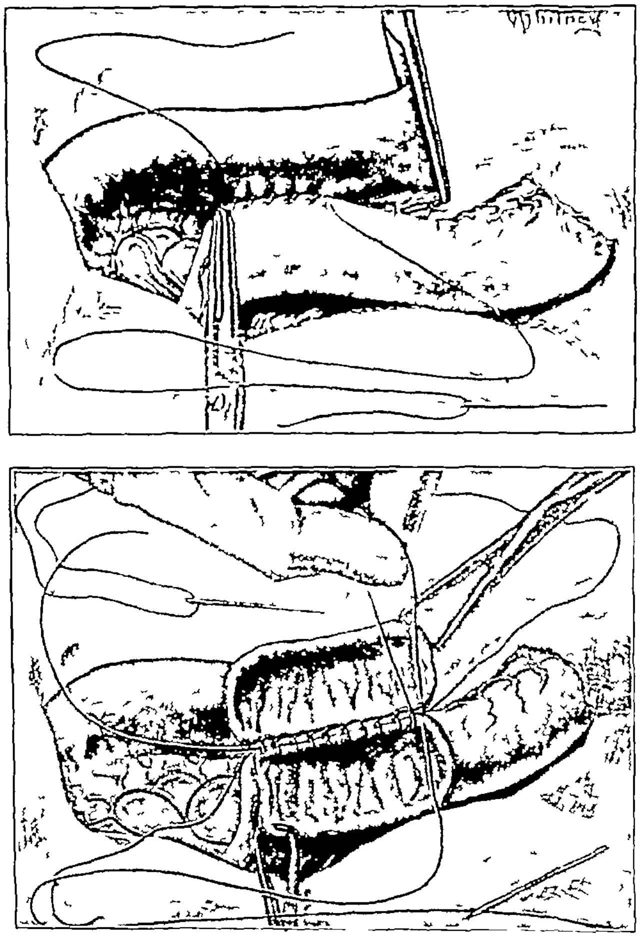


Fig 4.—In the upper illustration the sides of the two overlapped ends are being approximated near the mesenteries. The two clamps will be cut off with their enclosed crushed bowel leaving healthy ends after this suture has been completed near the mesenteries. In the lower illustration the clamps have been cut away and the sides of the bowel have been cut out except a narrow margin along the mesentery and also along the convex side for invagination. The inner suture with the buttonhole stitch has been completed and the Connell stitch for the remainder of closure begun. The serous surfaces are swung together by tension on the sutures only when they are on the mucous sides of the bowel. This loop is held till the needle again comes out on mucosa. It is of advantage to have needles on both ends of the inner stitch. Only one is shown above.

The animals operated on had nothing to eat for twenty-four hours, and with few exceptions were given a moderate physiologic dose of morphin about forty-five minutes before the operation. Ether was used throughout. Following the operation, they were given a general diet, except bones, as desired. The ones used for Roentgen-ray work had not been fed for twenty-four hours. In operating, care was used to prevent drying of the peritoneum, and injury. In the cases used for the Roentgen ray, efforts were made to avoid any unnecessary stimulation and trauma, so all stripping of the intestine to remove contents was avoided, and no clamps were applied to the bowel. In using the Connell stitch, which was used on the last half of the union of the bowel ends, I found it of value to keep this suture taut by tension on the thread only on the mucosal side. The loop and needle thread can be used as a hammock to swing the serous surfaces together, where they are held by tension on the loop, until the needle comes out of the mucosa on the other bowel. This allows more accuracy in getting the stitches even, and prevents distortion of the edges (Fig 4, lower illustration). For suture material chromic catgut was found satisfactory for the inner suture, and Pagenstecher linen for the second seromuscular row.

PROTOCOLS OF ANIMAL EXPERIMENTS

Experiment 1 (A E 668).—Dog, weighing 18 kg, was operated on, March 1, 1915, the section and a right angle union of the ileum being performed. Convalescence was uncomplicated. The animal was chloroformed, March 18, 1915, and at necropsy there were no adhesions except one small area on the suture line to the omentum. The union was nearly at a right angle, and there was no evidence of stasis. On sectioning, the union was found healed and practically the same size as the bowel.

Experiment 2 (A E 687).—Dog, weighing 8.7 kg, was operated on, March 15, a high intestinal section being made just below the duodenojejunal angle with a right angle union. Convalescence was uncomplicated. March 24, the dog was chloroformed. At necropsy, the abdomen was found to be clean. There was a small adhesion of the omentum at a part of the suture line. There was no evidence of stasis. On section a good healed lumen of at least normal size was found. March 16, twenty-four hours after operation, a meal containing 60 gm of bismuth subnitrate in 300 c c of buttermilk was given. At twenty-five and forty minutes after the meal, roentgenoscopy revealed that the shadow of the bismuth had passed the pylorus and had reached about 10 and 15 inches below the duodenojejunal angle beyond the site of the union with no evidence of stasis or dilatation. March 19 four days after operation, a similar meal was given. Twenty minutes later, on roentgenoscopy, the bismuth shadow was about 15 inches below the duodenojejunal angle. There was a shadow of bismuth in the colon from the previous meal. Thirty-five minutes after eating, before which the dog had vomited part of the meal there was some advancement in the bowel. The shadow was lacking somewhat in the fundus and body

---

29 Edmunds and Ballance Med Chir Tr lxxix 254

of the stomach, but the antrum was well filled as before There was very little difference in this good motility on the first and fourth days after this high intestinal section

Experiment 3 (A E 703) —Dog was operated on, March 26, 1915, a section just below the duodenojejunal angle and a right angle union being made. Convalescence was excellent The dog was chloroformed, June 2, 1915, and at necropsy there were no adhesions present, the right angle was practically the same as after operation There was no evidence of stasis, peristalsis could be elicited in this region before death The union was healed On the same day of the operation, one hour and thirty minutes after its completion, the usual bismuth meal was given On roentgenoscopy, ten and twenty minutes later, there were contraction rings and a very little shadow beyond the incisura angularis There was no shadow beyond the pylorus Forty minutes after eating, roentgenoscopy revealed the antrum filled and there was a shadow of bismuth 5 inches below the pylorus in the duodenum Contraction rings were present in the stomach

Experiment 4 (A E 750) —Dog was operated on, April 30, 1915 No morphin was given A section just below the duodenojejunal angle was made, and the oblique ends joined at a right angle At necropsy, May 13, 1915, there was a small area of two loops of bowel adherent some distance from the union, and a small adhesion of the suture line to the omentum There was no evidence of stasis or dilatation, the union was still nearly a right angle On section, the lumen was good and healed over On the day of the operation, one hour and thirty minutes after its completion, the dog was given the bismuth meal Twenty minutes after eating, roentgenoscopy revealed the stomach filled with bismuth, a contraction ring was present and the bismuth extended through the pylorus about 5 or 6 inches into the duodenum On roentgenoscopy thirty-five minutes after eating, a contraction ring was present in the stomach, and there was some advancement of bismuth in the duodenum On roentgenoscopy one hour and five minutes after eating, there was a definite advance of the bismuth to only about 10 inches

Experiment 5 (A E 519) —Cat was operated on, March 8, 1915, a piece of the ileum being resected, and the ends united by the notch method, described above Convalescence was good The cat was chloroformed, May 7, 1915, and at necropsy the bowel at the union was found of normal size, straight, and there were no adhesions There was no evidence of stasis On section, the healed suture lines could be seen by a slight inverted edge along them, the bowel was very well reestablished

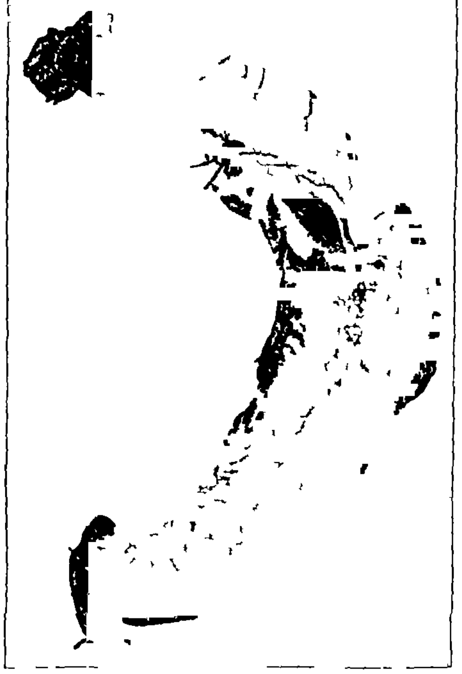


Fig 5 —This specimen with a notch method union, Experiment 6 was removed 115 days after operation The only adhesion present is shown This is a small area on the suture line to the omentum The size of the bowel at the union is the same as the day when the operation was completed

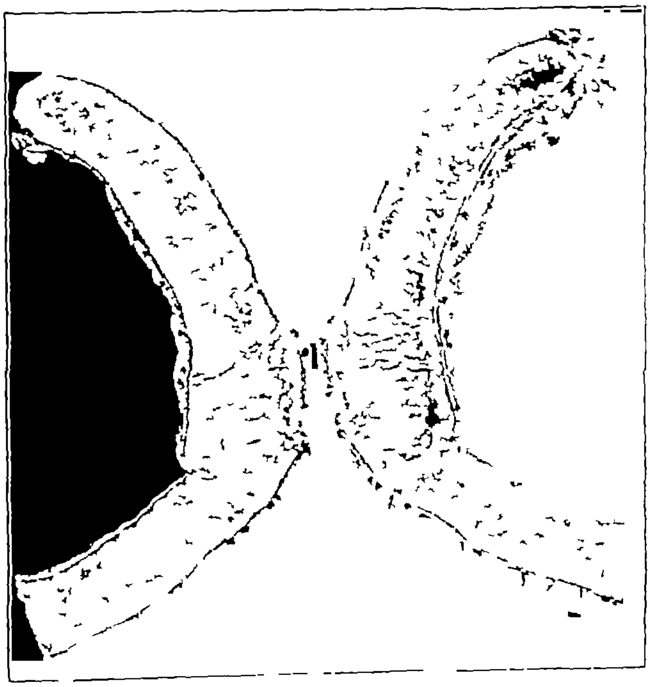


Fig 6—This specimen of a notch method union from Experiment 6 was split slightly to one side of the middle The suture lines cannot be seen on the mucosal side The slight increase in size of the lumen was made at the operation There is no place where the lumen is narrowed

Experiment 6 (A E 683) —Dog was operated on, March 12, 1915, a section of the jejunum being made close below the duodenojejunal angle, and the ends united after the above-described notch method The resulting reestablished bowel was slightly larger than the normal Convalescence was excellent July 6, 1915, the dog was operated on again There were no adhesions except one very small area on the suture line to the omentum The bowel at the union resembled that above and below, although a slightly larger diameter in the region of union Peristalsis at the union could be elicited The specimen was resected and examined at no place was there found a decrease in the lumen at the region of the anastomosis, and it was completely healed On the day after the first operation, March 13, a bismuth meal was given On roentgenoscopy fifty minutes after eating, the bismuth had passed the pylorus and reached a point about 15 inches below the duodenojejunal angle There was no evidence of obstruction On roentgenoscopy sixty minutes after eating, there was some advancement, which was also present at seventy minutes after eating March 16, four days after operation, a bismuth meal was given On roentgenoscopy thirty minutes after eating, the bismuth extended about 30 inches, or about twice as far as on the first day after operation, with no evidence of stasis at the union

Experiment 7 (A E 746) —Dog was operated on May 7, 1915, a lateral anastomosis being performed just below the duodenojejunal angle This dog is still living On the same day of the operation, an hour and a half after its completion, a bismuth meal was given On roentgenoscopy twenty-five minutes after eating, there was very little bismuth in the antrum and none beyond the pylorus On roentgenoscopy sixty minutes after eating, the antrum was filled and a contraction ring was present There was no bismuth beyond the pylorus

Experiment 8 (A E 773) —Dog was operated on, June 7, 1915, to note the movements and passage of bismuth after an operation on the stomach, a typical posterior short loop gastrojejunostomy being done On the day of the operation, thirty minutes later, a bismuth meal was given On roentgenoscopy ten minutes after eating, the bismuth extended very slightly into the antrum, and from this a bismuth shadow extended through the newly made opening about 10 or 12 inches into the jejunum There was no bismuth beyond the pylorus On roentgenoscopy forty minutes after eating, there was little change except some advancement in the jejunum On roentgenoscopy one hour and forty minutes after eating, there was little change in the stomach, still no bismuth below the pylorus, but there was advancement to about 15 or 20 inches in the jejunum below the newly made opening There was a small contraction ring in the stomach

Experiment 9 (A E 683) —Dog was operated on, July 6, 1915, a specimen of union being resected from just below the duodenojejunal angle and the proximal end invaginated and closed tightly The distal end was cut obliquely and anastomosed to the posterior surface of the stomach near the pylorus The dog was not lively after this operation, and became emaciated The dog was chloroformed, July 15 At necropsy the stomach was markedly distended with clear fluid, and the duodenum very markedly distended to the tied end of the jejunum The gastrojejunostomy opening was patent, of good size, and when the stomach was lifted, the fluid contents ran into the jejunum through this opening The lumen was practically healed and about the size of normal bowel in this region

MOVEMENTS OF THE STOMACH AND INTESTINES AFTER HIGH SECTION AND UNION BY THE FOREGOING METHODS

The right angle unions done close to the duodenojejunal angle caused from no apparent delay of food at the pylorus to slightly over twenty minutes In the one instance a lateral anastomosis caused a delay of over sixty minutes In both instances of appreciable delay, morphin had been given Twenty-four hours *and four days after operation by the right angle and* notch methods, there was no delay observed at the pylorus, as observed by the Roentgen ray

In contrast to the foregoing, Cannon and Murphy,[8] in observations on cats after a high intestinal section and union, found a delay of five or six hours at the pylorus, although gastric peristalsis was good all of the time They ascribe a protective function to the pylorus, in that its closure prevents the stomach contents coming into contact with any wound of the peritoneum until the peritoneal surfaces have been agglutinated, as after five or six hours they may afford efficient support (Abbe[30]) They observed only a very small effect on movements of the stomach and small bowel due to etherization, to section of the abdominal wall, exposure to the air, or unusual cooling

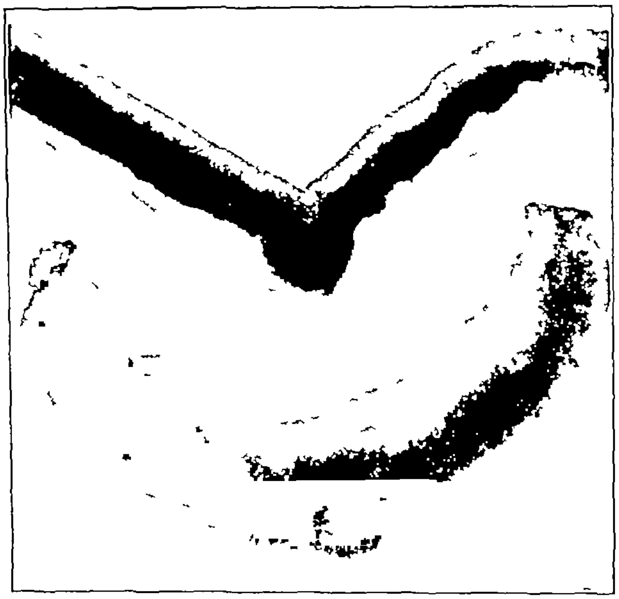


Fig 7 —The specimens of a right angle union sixty seven days after operation and a notch method union 115 days after operation are shown filled with bismuth The union in neither case has narrowed the normal lumen of the bowel

Motor function of the stomach, evidenced by rings of contraction, was present in all of my cases, although when delay at the pylorus occurred there was an early imperfectly filled antrum In the posterior short loop gastrojejunostomy, in which surgical handling and section of both the stomach and jejunum were done, the bismuth was delayed at the pylorus over two hours after the meal, though the bismuth passed almost immediately through the newly made stoma into the jejunum, where advancement was sluggish After the most gentle handling of both stomach and intestines, Cannon and Murphy observed no movements of the stomach and no discharge from the pylorus for three hours, while rougher handling caused a longer period of loss of motor function They observed a local paralyzing effect of section and union of the intestine in that no food came closer than 5 or 6 inches during the seven-hour period of observation

The localized loss of propulsing peristaltic contraction waves was present in all of my cases of intestinal section and union from immediately after operation to an hour and over, which was the limit of my observations However, in the case of the gastro-enterostomy, the bismuth passed the union without noticeable delay, although the advancement in the jejunum was sluggish

The local loss of motor function after intestinal section and suture may be due largely to the handling, and this stimulation excites possibly Bayliss and Starling's law of the intestines, that of inhibition below and contraction above a point of stimulation The nerve mechanism for the propulsing peristaltic contraction wave, alone, may be inhibited or fatigued, while possibly the rhythmic pendular movements are not thrown out, as these are probably myogenic in origin It is probable that a general inhibition of the intestines can be produced reflexly, through the splanchnics, by stimulation of the intestines and also probably of any *sensory surface* (Bayliss and Starling[31])

Cannon and Murphy found a twenty-four hour stasis at the site of union on cats fed on a waste-free diet, even four days after operation, when a lateral anastomosis was done This was more marked on a general diet two weeks later They found no stasis in the end-to-end union twenty-four hours after operation or later, and recommend its use when a rapid resumption of normal bowel function is desired

In the foregoing observations on the right angle and the notch methods, there was no evidence of stasis at the union, and these methods are also recommended when a rapid resumption of normal bowel function is desired[32]

CONCLUSIONS

1 There are distinct advantages of the notch and right angle over the circular end-to-end and lateral anastomoses

2 There is as early a resumption of physiologic function in the notch and right angle anastomoses as in the circular end-to-end

3 The pylorus, if controlled in dogs by a special protective mechanism, does not delay the food there from five to six hours after a high intestinal union, while the gastric peristalsis is active, as described by Cannon and Murphy in cats There may be from no demonstrable delay to a short delay in certain cases

---

[30] Abbe quoted by Cannon and Murphy (Footnote 8) p 516

[31] Bayliss and Starling Jour Phys xxiv 108 114 121

[32] In addition to the references already given the following are of interest
George Jour Michigan State Med Soc., *September 1910 p 431*
Am Jour Surg, November 1909
Hedblom and Cannon Ann Surg cxxxviii, 504
Gatch W D Aseptic Intestinal Anastomosis, The Journal A. M A, July 20 1912, p 185
Walker F B Intestinal Anastomosis Presentation of a New Simple and Aseptic Method The Journal A M A., Aug 15, *1908 p 546*
Keen s Surgery, 1914 iv *713 725* vi 535 539
Binnie s Operative Surgery, 1912
Murphy J B Med Rec., New York, xlii 665

4 Following any intestinal anastomosis, a localized loss of motor function remains, and possibly a general reflex sluggishness of the intestinal tract, varying to some extent with the degree of trauma, emphasizing the importance of delicate surgical technic

5 There may not, necessarily, be a complete temporary loss of gastric motor function after necessary surgical handling for union to the bowel

LINITIS PLASTICA HYPERTROPHICA (LEATHER BOTTLE STOMACH)

REPORT OF A CASE *

ALEXIUS McGLANNAN, M D
BALTIMORE

Linitis plastica hypertrophica is the rather fanciful name given by Dr William Brinton in 1854 to a condition of the stomach in which there is great thickening of the walls at the expense of its lumen, due to a fibrosis involving principally the submucous, but to a lesser degree all the coats except the mucosa The interlacing strands of fibrous tissue, which resemble in appearance coarse linen, suggested the name to Brinton

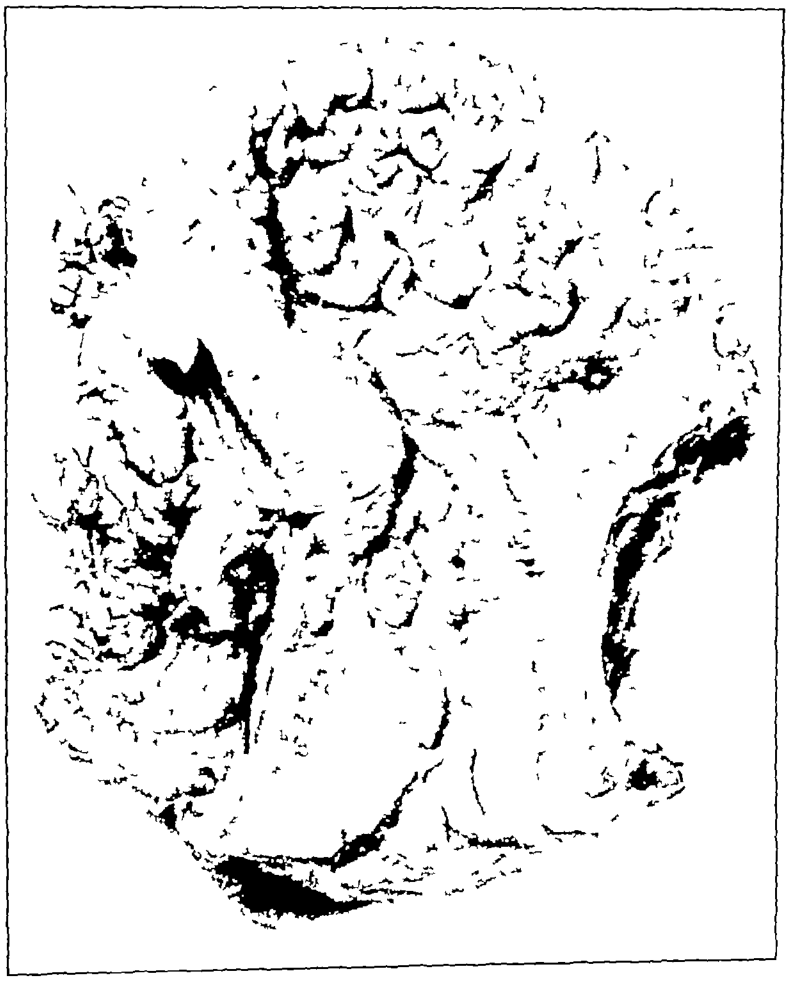


Fig 1.—Linitis plastica, showing the dense fibrosis of the submucosa and the segmentation of the muscularis by the white fibrous partitions The specimen is the resected pyloric region from a patient with the localized form of the disease (Photograph by Schapiro)

Two forms of the disease are recognized, one localized, the other diffuse In the localized form the pathologic change is limited to a certain area of the stomach, usually the pyloric region, although the indurated plaques may occur anywhere in the wall The diffuse form involves the entire stomach, which is most often shrunken but may retain the normal size or may be dilated The wall is rigid, and thickened to six or eight times its normal size The thickening is sharply limited to the stomach, while the thin walled normal duodenum affords a striking contrast This rigid thick walled contracted stomach suggested the synonym given to the disease

In gross appearance, the stomach in this disease shows a smooth, pearly white, dull peritoneal surface The thick wall cuts with a creaking sound, and the limits of the different layers are distinctly shown, a distinction from the scar tissue of a healed ulcer The glistening bands of the new connective tissue are visible to the naked eye The mucous membrane is normal or thin Atrophy and ulceration are said to be rare, but Thomson and Graham[1] state that in seven of nine specimens examined "there is situated in the center of the affected area a deeply punched out ulcer, the surrounding mucosa, instead of being as soft as velvet, freely movable on the subjacent coats, and showing prominent rugae, is firm and unyielding, is closely adherent to the submucosa, and presents a hillocky surface, corresponding to variations in thickness of the fibromatosis in the submucous coats"

The submucosa shows the greatest change This loose layer of areolar tissue becomes solid and tough and so thick that it makes up a great portion of the gastric wall Segmentation of the circular muscle by the fibrous tissue is easily seen, the colored muscle bundles separated by the partitions of white fibrous tissue standing out clearly This segmentation is characteristic of linitis plastica, and distinguishes the hypertrophy of the layer of circular *muscle in this disease* from that occurring in obstruction of the pylorus

Late in the disease the mucous membrane always shows the effects of long continued circulatory disturbance

Microscopically the connective tissue proliferation is the most striking feature The irregular, interlacing bands of fibers surround the blood vessels and traverse the various layers of the stomach The endarteritis occasionally observed is probably an evidence of syphilis, *which is an* unquestioned etiologic factor in some of the cases reported These cases are all of the localized variety, and probably should be kept in a separate group

The effect of the fibrosis on the mucous membrane gives a varying microscopic appearance The difficulty of distinguishing between the microscopic appearance of cancer and that of isolated glands separated from their fellows by connective tissue proliferation is so great that it probably accounts for part of the controversy regarding the benign or malignant nature of this disease Lyle has made an exhaustive study of linitis plastica, and has collected reports of seventy benign cases and sixty additional cases reported as linitis plastica which are malignant

The difficulties of microscopic diagnosis have been noted, and further confusion is added by the fact that in several cases in which the *microscopic* picture was considered definite, the patients are living and well so long after operation that the malignant nature of their disease must be questioned. Many times the operations were deliberately planned for palliation only, but the end-result proved that the patient had been cured.

---

* Read at the semiannual meeting of the Medical and Chirurgical Faculty of Maryland, at Westminster, Oct 28, 1915

[1] Thomson and Graham Ann Surg, 1913, lviii 10

[2] Lyle Ann Surg, 1911, liv, 625

It is not unlikely that we have both benign and malignant forms of this disease. The diffuse scirrhous carcinoma of the stomach should be considered a separate entity. Stasis and ulceration are frequent associates in pathologic process. Both have a marked effect on connective tissue proliferation. Bland-Sutton,[3] discussing leather bottle stomach, compares the change in the stomach with that occurring in the shrunken gallbladder of cholecystitis, and notes a similarity. There can be no doubt that an ulcer, either directly by admitting irritant or infectious material into the submucous tissue, or indirectly by occluding the pylorus, originates a sequence of pathologic changes which will ultimately result in fibrosis. In certain individuals this fibrosis takes the peculiar arrangement noted in linitis plastica. Similarly, a cancer, either by obstruction or ulceration, may lead to the same change. Finally, the cancer originating in an ulcer may complicate the picture, especially should the malignant development follow that of the fibrosis. In the latter event, as Thomson and Graham show, the local cancerous growth is so modified by the fibrosis that it may be difficult to recognize except by most careful microscopic examination. The tumor cells, however, permeate the lymphatics and invade the neighboring lymph glands. Here the carcinoma is easily recognized. At the present time, therefore, the examination of the lymph nodes and detection of metastases in them seems the only evidence we may secure to make certain the malignant nature of a specific case.

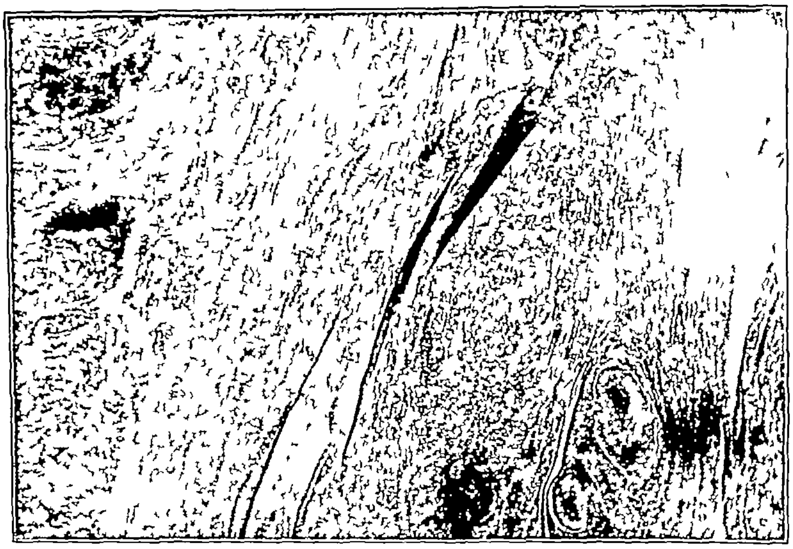


Fig. 2.—Microscopic picture of linitis plastica showing the fibrosis of the submucosa, the involvement of the muscularis and the effect on the mucosa. (Photomicrograph by Schapiro.)

The disease is one of adult life. Lyle's statistics show that the greatest number of cases occur between the ages of 40 and 60 years, and about twice as often in men as in women. Some form of disease associated with general circulatory stasis is frequently noted in the previous history of the patient.

The symptoms of onset are generally slight, indefinite dyspepsia (Lyle), loss of appetite, epigastric distress on taking food, and eructations. The symptoms gradually become marked and progressive, reaching those of definite stenosis, and if unrelieved end in anemia, starvation, cachexia and death.

Occasionally the onset is quite abrupt, and the obstructive symptoms come on rapidly.

Gastric examination shows a diminished capacity of the stomach, and the stomach cannot be distended. The thick stomach has been palpated as a sausage-shaped tumor in the epigastrium. Chemical examination of the contents usually shows diminished acidity with little or no free hydrochloric acid. Lactic acid may be present. Blood in either stomach contents or feces is unusual. Roentgen examination offers the best means for recognizing the lesion. The shadow of a small stomach shows a sharp outline, with little or no peristaltic contracture. Serial pictures indicate the degree of stenosis. Sailer[4] notes a rapid emptying of the stomach, owing to the bismuth flowing through the rigid tube of stomach almost immediately into the duodenum.

Gastrectomy is the operation of choice for the localized form of the disease. When the patients are feeble, the two-stage operation, preliminary gastro-enterostomy and secondary gastrectomy, is advised. Thomson and Graham suggest the removal of a lymph gland at the first operation to serve as a guide for subsequent procedure. They state that a metastasis in the gland is the indication for secondary resection. This teaching, however, would leave unoperated the class of cancers in which cure is most likely to follow partial gastrectomy, namely, those which have not yet metastasized to lymph glands. Therefore, although the surgeon should remove the gland for diagnosis, his judgment regarding resection should be based on the conditions observed in the abdomen. Dense adhesions to the peritoneum or to other viscera, if due to cancer, make the complete removal impossible and indicate a palliative operation, while a doubtful mass, not adherent, should always be excised.

For the diffuse form, complete gastrectomy has been performed a few times. The usual operation is gastro-enterostomy and occasionally jejunostomy.

REPORT OF CASE

The patient (Surgical No. 40090, Mercy Hospital. Abdomen, Stomach, Linitis Plastica Hypertrophica Diffusa) was a white woman, aged 22, transferred from the service of Dr. J. Friedenwald. There was a previous history of typhoid fever ten years ago. The onset of the present illness was abrupt, twenty days ago. The initial symptom was vomiting, which continued daily, with acrid eructations occurring almost constantly. There were slight pain in the abdomen and marked constipation. There has been a progressive loss of weight.

The patient was greatly emaciated, the abdomen scaphoid. There were no masses or tender points. The liver was not enlarged. The thoracic viscera were normal.

Analysis of stomach contents showed a total acidity of 10, with absence of hydrochloric and lactic acids. Blood examination revealed: red blood cells, 3,240,000; hemoglobin, 60; white blood cells, 8,000. The Wassermann reaction was negative. Roentgen examination revealed a small vertical stomach, pyloric stenosis, retention and diminished peristaltic contracture

---

[3] Bland-Sutton: Brit. Med. Jour., 1914, i, 229.

[4] Sailer: Tr. Am. Gastro-Enterol. Assn., 1914, p. 31.

The possibility of linitis plastica was considered because of the small stomach, the evident obstruction and the improbability of scirrhous cancer at the age of 22

A posterior gastro-enterostomy was done When the abdomen was opened, the stomach was found small and not adherent The peritoneal surface was dull grayish purple, the walls rigid and very thick The pylorus would not admit the little finger It was impossible to close the gastro-enterostomy clamp in the usual way, and therefore the one on the stomach was not used After the usual two posterior rows of linen sutures were in place, the stomach and jejunum were opened The stomach wall was about 15 mm thick, and each layer stood out distinctly, the muscularis showing especially the glistening fibrous bands The mucous membrane was thin and friable, and the strings of white fibrous tissue running up from the submucosa showed plainly as they ran into the cyanotic mucous membrane, and seemed to anchor it to the deeper layers In contrast, the jejunum was thin walled, and the mucous membrane protruded from the incision A continuous catgut suture united the mucous layers, and the two rows of linen sutures were carried around on the front of the anastomosis The mesocolon was sutured in place, and the wound closed in layers

The patient made an uneventful recovery, taking solid food on the tenth day She is now in perfect health, two and one-half years after the operation

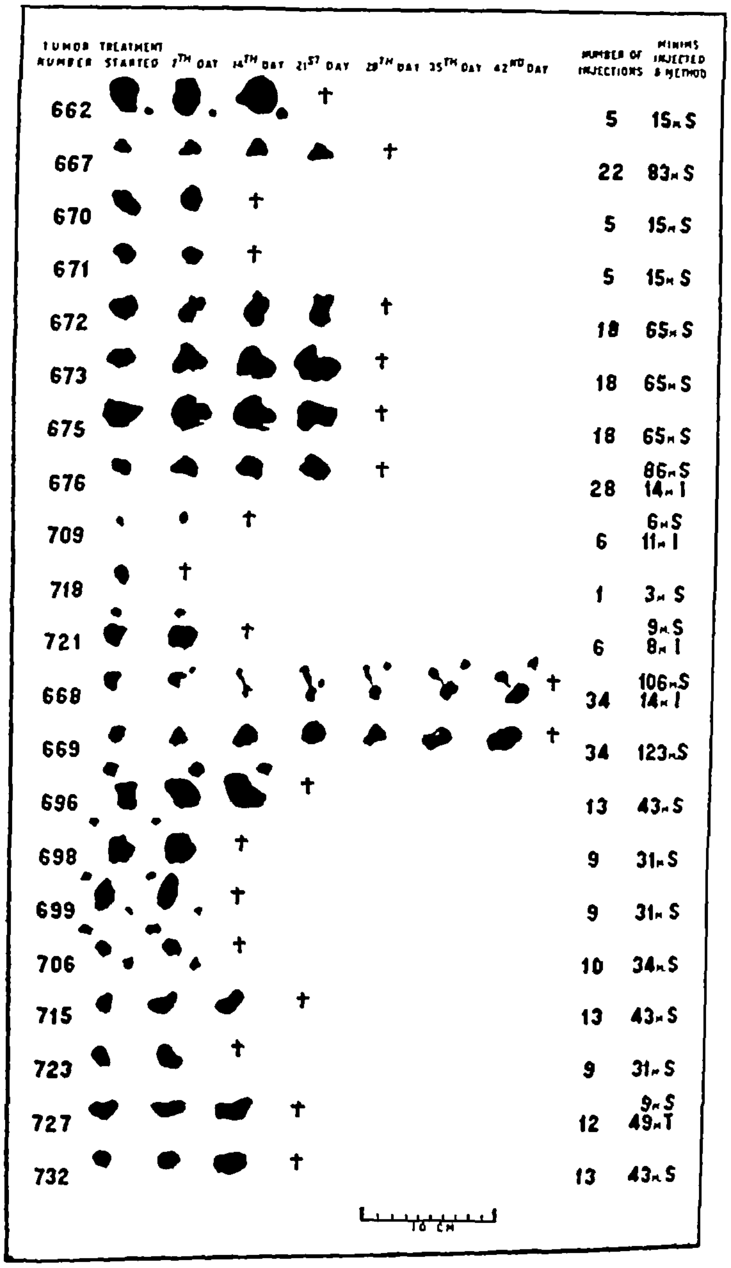
114 West Franklin Street

ACTION OF "AUTOLYSIN" ON MOUSE TUMORS *

FRANCIS CARTER WOOD, M D
NEW YORK

The use of "autolysin" in the treatment of cancer has been so widely heralded, in both the lay and the professional press,[1] that it was deemed proper to conduct the following experiments in order to determine whether the preparation has any action on tumors in mice, the malignancy and clinical course of which are quite comparable to those of human cancer Twenty-one animals bearing spontaneous tumors were used in the test It is generally agreed that spontaneous tumors in mice very rarely regress, and this has been our own experience, since we have never noted a regression in about 800 spontaneous mouse tumors observed Accurate measurement shows that these neoplasms grow progressively, though an apparent recession may be produced by the contraction and absorption of the hemorrhages that so often occur in them These extravasations, when they first take place, lead to a sudden augmentation in the dimensions of the tumors, which, though it suggests an increase in growth energy, is just as illusory as the subsequent contraction When disturbing factors such as these are disregarded, the growth of the neoplasms is found to be steadily progressive in practically every case, death occurring within a few months The decrease in the size of Tumors 668, 669, 671 and 723, as shown in the accompanying chart, is explained by the foregoing observations, and cannot be attributed in any way to the action of "autolysin," since it is, as has just been stated, of frequent occurrence in untreated mice

No tests were made on mice bearing transplanted tumors, for the reason that a number of such growths may spontaneously disappear after the tumor has reached a certain size Though this does not always occur in all strains of transplanted mouse tumors, some of which after inoculation grow progressively and kill the animals, yet it was felt that it would be wiser to use in the experiments a type of tumor in regard to which no question could be raised as to spontaneous disappearance and therapeutic effect Attention has been called, not only to the publications of this laboratory,[2] but also in the monographs of the Imperial Cancer Research Fund and of a number of other laboratories where careful records of the course of growth in tumors are kept, to the disadvantage of using transplanted tumors of unknown biologic qualities Despite these warnings, reports are constantly made of the successful treatment of 10 or 20 per cent of animals inoculated with tumors whose regression percentage may normally quite exceed these figures



Spontaneous tumors treated with "autolysin" † died, *M*, minims, *S*, subcutaneous, *I*, intravenous, *T*, into the tumor

---

* From the George Crocker Special Research Fund, Columbia University

[1] Beebe, S P New York Med Jour, 1915, ci, 981, ibid, 1915, cii, 689

[2] Wood, F C, and McLean, E H The Effect of Phloridzin on Tumors in Animals, Proc. Soc. Exper Biol and Med, 1915, xii, 135 Woglom, W H Diet and Tumor Growth, Jour Exper Med, 1915, xxii, 766 Rohdenburg, G L Colloidal Silver with Lecithin in the Treatment of Malignant Tumors, Jour Med Research, 1915, xxxi, 331 Rohdenburg, G L, and Bullock, F D The Influence of Autolytic Products on Tumor Growth, Med Rec, New York, 1915, lxxxviii 233

Spontaneous neoplasms were employed, furthermore, because a transplanted tumor is composed of the cells of one animal proliferating in the body of another, while the problem to be solved in the cure of human cancer is to destroy a group of cells belonging to the individual himself To these conditions the spontaneous new growths of mice exactly correspond while the transplanted tumors do not

As a preliminary, test injections were made on normal mice to determine the toxicity of the "autolysin" The dose orally suggested for these animals by Dr Beebe and Dr Horowitz, who kindly supplied the "autolysin" used in this study, was from 3 to 5 minims (0 2 to 0 4 c c), which in a mouse weighing 30 gm is equivalent to 7,200 minims (445 c c) in a 150 pound man A period of five weeks in the life of a mouse is equivalent to 110 weeks in the life of a man, the expectation of life being for a mouse about two and one-half years and for a man fifty-five years These facts should be borne in mind when comparisons are made with human cases, as they show that the doses administered to the mice were in some instances proportionately too large to be administered to men It was found that the drug was apparently nontoxic for mice, even in intravenous doses of 1 c c (equivalent to 2,500 c c in a 150 pound man) Injections were made daily, so that no anaphylactic phenomena were observed A local reaction was produced by subcutaneous injections, as was shown by a considerable thickening which remained for some days

The chart shows the amount of the dosage in minims in each instance, the appended letter indicating whether the injection was made subcutaneously, intravenously, or into the substance of the tumor itself The charting of the tumors was done by a person who does nothing but this work, and who was entirely unaware of the nature of the experiments, this avoids any personal bias in the measurements The dimensions of the growths were determined by calipers, and their outlines plotted in a book of records on the day when treatment began and on every seventh day thereafter Our experience with this method of charting has shown that a high degree of accuracy can be obtained by an experienced worker

After the death of the animal, it was examined at necropsy, and microscopic examinations were made of the tumors and of the various organs All of the tumors proved to be mammary adenocarcinomas, with the exception of No 671, which was a mixed-cell sarcoma

Clinically there was no evident change in the condition of the animals as the result of the treatment Their weight fluctuated within about a gram, as is the case with untreated mice bearing spontaneous tumors Enumeration of the red and white blood cells was not made Twenty-one animals in all were treated over periods varying from one day to five weeks, with a total dosage in each case of from 3 to 123 minims (0 2 to 7 5 c c) of the "autolysin" The number of injections varies from one to thirty-four

No gross changes were observed in the tumors which were not also found in neoplasms from untreated controls The liver, kidney, spleen and other organs of the animal showed no gross alterations which were not observed in a series of 100 untreated spontaneous tumors[3]

Microscopic examination of the site of injection showed a fairly extensive necrosis with dense leukocytic infiltration The chlorophyl in the "autolysin" was not wholly absorbed, that which remained in the tissues incited a mesothelial reaction with the formation of giant cells similar to those growing about lipoid substances, oils or paraffin Microscopic examination of the organs showed no lesions not met in the control animals

Sections of the tumors studied microscopically showed that the tissues of the neoplasm were in an active state of growth, as indicated by the number of mitotic figures and the morphology of the cells This growth was particularly well marked in Tumors 672 and 678, which were the longest under treatment Even in Tumor 727, in which injections were made into the tumor itself, there remained a very wide margin of healthy, growing tumor cells Areas of necrosis were not found more frequently than in untreated controls

The accompanying chart shows the size of the tumor at different stages, the day of death of the animal, marked by a cross, the total dose, and the site of injection It is evident that there was no demonstrable effect on the course of the tumor, all the animals dying ultimately and all the tumors showing distinct expansive growth The number of metastases observed did not differ from that in a similar series of spontaneous tumors It may be added here that about three years ago, in a series of unpublished experiments, thirty mice bearing transplanted tumors were treated with subcutaneous and intravenous injections of pure chlorophyl, but no therapeutic effect could be demonstrated

CONCLUSION

"Autolysin," either in small or in very large doses, does not affect malignant tumors in mice

---

THE EXTENT AND SIGNIFICANCE OF GONORRHEA IN A REFORMATORY FOR WOMEN

AND THE CONSIDERATION OF THE TREATMENT OF VENEREAL DISEASE AMONG DELINQUENTS *

ELIZABETH A. SULLIVAN, M.D
AND
EDITH R. SPAULDING, M D
FRAMINGHAM, MASS

Being confronted with the extremely difficult problem of giving adequate treatment to 200 women infected with gonorrhea, out of a population of 350, in an institution equipped for education and industry rather than for purely medical work, it was thought worth while to study the situation in detail and ascertain the facts concerning the following points

1 The prevalence of the disease among 500 delinquent women who have recently been in the institution and the nature and extent of the infection in each positive case

2 The length of time the disease had existed without treatment and the time needed for the disappearance of the clinical symptoms

3 The prevalence of the disease among women serving sentence for different types of offenses

---

[3] Rohdenburg G L. and Bullock F D A Histological Study of the Internal Secretory Glands in Mice Bearing Spontaneous Tumors Jour Med Research 1915 xxxiii 147

* From the Reformatory for Women

4 The comparative prevalence of gonorrhea and syphilis among,

a Alcoholics
b Prostitutes
c Delinquent women in general
d Mentally defective delinquents of the segregable type

While this study shows the prevalence of the disease among delinquent women and the serious consequences to the women themselves, no effort has been made to estimate the far-reaching effects of their infectiousness in the community The seriousness of the conditions found, however, has seemed sufficient reason for renewed interest in the situation quite as much from a community as from an institution standpoint

1 *The prevalence of the disease and the nature and extent of each infection*—Five hundred twenty-two women have been examined to discover the extent of the infection, with the results shown in Table 1

TABLE 1—EXTENT OF INFECTION IN 522 WOMEN

	Number	Per Cent
Cases positive by clinical history and bacteriologic examination	370	70 8
Cases positive by clinical history alone	18	3 5
Cases positive by bacteriologic examination alone	7	1 4
Total number of positive cases	395	75 7

The 75 7 per cent of positive cases may be considered a conservative estimate It represents those cases which presented symptoms during the entrance examination and does not include cases which may have recovered, or which were latent at that time unless clinical symptoms returned later and were admitted by the patient

The management of a gynecologic clinic of the size necessary for even routine treatment with this number of positive cases will be appreciated by those who are familiar with the difficulties of institution life, especially in a custodial institution in which a large number of women represent unstable types For example, the average number of treatments given each week is 450, or 1,000 each month As large as this looks on paper, it is still more appalling in actuality

The detailed study of 268 positive cases shows *the duration of the disease and its course* to be as follows

The greatest length of time which had elapsed since the initial infection was twenty-six years, while the average length of time was four years and five months Seven patients had had the disease over twenty years, while only eleven patients came to us during the first three months of the infection The average length of time of the first attack was three years and ten months, while the average length of time that clinical symptoms have been present in each case was four years and three months It was found that in 82 7 per cent of the cases there had been no cessation of clinical symptoms since the initial infection Such a proportion as this is evidence that the infectiousness in the community has been continuous and also that there is little tendency to spontaneous cure by nature's methods alone

In the 11 3 per cent of cases showing recurrences or reinfections, some cases gave a history of as many as eight, while the average number was two The longest interval in which the patient had been free from discharge was four years, while the average length of the interval was seven months

The information which we have obtained may be inaccurate on account of the large proportion of mental defectives among the patients, the length of time which had elapsed in many cases since the initial infection, and the intentional minimizing or concealment of symptoms, in some cases, in order to obtain an earlier release Notwithstanding this, the results of the study have been surprisingly consistent

As will be seen from the accompanying table (Table 2), the 303 positive cases which it was possible to study in detail have been divided into six classes according to the length of time the disease had been present before treatment was begun, to discover, if possible, differences in the virulence and the nature of the disease at various periods

The classification is as follows

Class 1 had been infected from one to three months before being treated
Class 2, from four to six months
Class 3, from seven to eleven months
Class 4, from one to five years
Class 5, from six to nine years
Class 6, ten years or longer

The total results of this table show that 52 per cent of the whole number had had the disease from one to five years without treatment, 19 per cent had had it from six to nine years, and 14 per cent had had it over ten years Fifteen per cent, *only*, received treatment during the first year of the disease

It will be seen at the outset how little realization the patients have had of the seriousness of the disease and how handicapped any method of treatment is which is begun at such a late date

Regarding recurrences or reinfections, it will be noted that in Classes 1 and 2 (from one to six *months*)

TABLE 2—SHOWING 303 CASES OF GONORRHEA AMONG DELINQUENT WOMEN, CLASSIFIED ACCORDING TO THE DURATION OF THE DISEASE BEFORE TREATMENT WAS BEGUN

Duration Before Treatment	Number of Cases with Recurrences		Cases Having Pain in Both Iliac Regions		Cases Having Pain in Either Iliac Region		Cases Having Pelvic Operation		Cases Needing Pelvic Operation		Total Number of Surgical Cases		Total of 303 Cases	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%
Class 1, 1 3 months			2	18	11	100	1	9	1	9	2	18	11	4
Class 2, 4 6 months			4	33	12	100	1	8	1	8	2	16	12	4
Class 3, 7 11 months	2	9	4	18	21	95	2	9	3	14	5	23	22	7
Class 4, 1 5 years	43	27	47	29	91	57	37	23	41	24	78	47	160	52
Class 5, 6-9 years	14	25	14	25	35	61	14	25	9	16	23	41	57	19
Class 6, 10 years +	5	12	12	29	37	93	6	15	8	20	14	35	41	14
Total	64	21	83	27	207	68	61	20	63	21	124	41	303	

there was universally an uninterrupted course, a few recurrences appearing in Class 3 (from seven to eleven months) while the largest number, 27 per cent. and 25 per cent., respectively, was found in Classes 4 and 5 (groups having had the disease from one to five and from six to nine years). After this period their memory of recurrences did not appear so vivid and only 12 per cent. gave such a history.

Of the total number 68 per cent. have had pelvic inflammation in one iliac region, while 27 per cent. have had it on both sides. A nearly equal number of cases showed inflammation of the left and the right sides (left, 147 cases, right, 143 cases). Practically all in the first three classes gave a history of pelvic inflammation. This may have been diffuse pelvic inflammation rather than an inflammation of the tube or ovary. Nevertheless, about 9 per cent. of the first three classes had been operated on, while from 8 to 14 per cent. needed operation.

TABLE 3.—HEART LESIONS IN 580 WOMEN

	No.	Per Cent.	Cardiac No.	Cases Per Cent.
Gonorrheics	440	75.9	123	27.9
Nongonorrheics	140	24.1	40	28.5
Totals	580	100	163	28.1

According to statistics gathered by 678 physicians,[1] 40 per cent. of all female gonorrheics suffer from pelvic symptoms. Other statistics, gathered by six different authors,[2] show that pelvic complications occur in 25 per cent. of the acute and in 50 per cent. of the chronic cases. The previous negligence of our patients, however, would easily account for their relatively larger number, namely 68 per cent.

Of the 303 cases, 20 per cent. have had an abdominal operation to relieve a pelvic condition due to this infection, while 21 per cent. more are suffering from a chronic condition which can be relieved only by surgical measures. Thus, out of the whole number there were 41 per cent. of surgical cases. It is interesting that the largest proportion of surgical cases (47 per cent.) was in Class 4 (one to five years). In Class 5 (six to nine years) the proportion was nearly as high (41 per cent.)—the number actually operated on being higher, while those needing it were fewer than in the preceding class. In Class 6 (ten years and over) 35 per cent. were surgical cases, 20 per cent. of which had already been operated on. Such figures serve to emphasize the virulence of the disease, in its later stages especially, when it has been neglected for so long a time.

TABLE 4.—COMPARISON OF COMPENSATION OF CARDIAC CONDITIONS

	Compensation		
	Good Per Cent.	Fair Per Cent.	Poor Per Cent.
Nongonorrheics	38.2	40.6	21.2
Gonorrheics	50.0	30.0	20.0

A special study of 580 cases including 440 gonorrheics was made to ascertain the prevalence of heart lesions. No gross evidence, however, could be found of endocarditis which was caused by the disease, the proportion of heart lesions being practically the same in both classes. The results are found in Table 3.

That is, 440 cases of gonorrhea showed 27.9 per cent. of cardiac cases, while 140 cases without gonorrhea showed 28.5 per cent. of cardiac cases. As the cases without gonorrhea have, generally speaking, taken better care of themselves than the class that has had the disease the fact that the latter class shows the larger percentage is the more significant.

A comparison of the compensation of the cardiac conditions was made in the two classes, with the results shown in Table 4.

Contrary to what might be expected, the percentage of the poorly compensated cases is higher among the first class than among the second.

Six of the heart cases, however, gave no history of other causes besides gonorrhea to which the condition could be attributed. Although this is a difficult diagnosis to prove, it has been sufficiently often demonstrated at necropsy to leave no doubt as to the possibility of its existence, and is extra evidence of the organism's capacity for harm in the community.

TABLE 5.—BIRTH RATE AMONG GONORRHEIC AND NONGONORRHEIC WOMEN

	Gonorrheics		Nongonorrheics	
	No.	Per Cent.	No.	Per Cent.
No children	161	40.7	46	35.4
One child	140	35.4	19	14.6
Two children	42	10.6	14	10.8
Three children	22	5.5	9	6.9
Four children	17	4.3	11	8.5
Five or more children	14	3.5	31	23.8
Total	396		130	
Total number of children	439		365	
Average number of children	1.1		2.8	

The percentage of sterility which is caused by the disease seemed perhaps the most important subject for investigation. While the result, if positive, might be considered desirable among our women who are mentally or socially inefficient, still, the sterility which is caused indirectly by them in the community would doubtless be considered most undesirable. Here we might add that Neisser[3] states that 30 per cent. of all women who have gonorrhea have been infected by their husbands. Norris[4] says that, by sterilization and abortion, gonorrhea does more to depopulate the country than any other one cause, other authorities say that from 30 to 50 per cent. of all childless marriages are directly caused by gonorrhea.

The figures in Table 5 show the birth rate among 396 gonorrheics and 130 nongonorrheic women.

The average number of children for each nongonorrheic will be seen to be 2.8, while for each gonorrheic it is 1.1. The high percentage of families of five or more children among the nongonorrheics (23.8 per cent. as compared with 3.5 per cent. among the gonorrheics) is significant, also the 35.4 per cent. of "one child sterilities" as compared with 14.6 per cent. among the nongonorrheics.

---

[1] Report of Committee of Seven, Med. News, Dec. 21, 1909.

[2] Menge, F.: Handbuch der Geschlechtkrankheiten, Vienna, 1910.

[3] Neisser: Quoted by Mullowney, J. J.: China Med. Jour., March, 1912.

[4] Norris: Gonorrhoea in Women, W. B. Saunders Company, 1913, p. 127.

The figures in Table 6 show the proportion of the children of 396 gonorrheics, born before and after infection.

Here it will be noticed that the number of children born before the infection is over twice the number born after the infection, and that the average number before infection was 0.7, while after infection it was 0.4.

TABLE 6.—PROPORTION OF CHILDREN BORN BEFORE AND AFTER INFECTION

Birth Rate	Before Infection		After Infection	
	No.	Per Cent.	No.	Per Cent.
No children	231	58.3	326	82.4
One child	102	25.8	38	9.6
Two children	32	8.1	10	2.5
Three children	14	3.5	8	2.0
Four children	7	1.8	10	2.5
Five or more children	10	2.5	4	1.0
Total number of children	295		144	
Average number of children	0.7		0.4	

A further study was made of the effects of pelvic symptoms on the birth rate. The results are shown in Table 7.

These results would seem to signify, as might be expected, that uncomplicated gonorrhea affects the birth rate less than gonorrhea which involves the uterine adnexa, particularly if it calls for surgical interference. The cases in which operation was performed show the smallest average number of children (0.1) while the average of those patients needing operation is not much higher (0.2).

While it is realized that these results might be made more valuable with the consideration of much more detail than has been attempted here—such as comparative ages, proportion of married and single women, etc.—still it is believed that they serve to demonstrate in a general way that what is already known of the characteristics of the disease holds true in our present problem.

TABLE 7.—EFFECTS OF PELVIC SYMPTOMS ON BIRTH RATE

	Cases Operated on Per Cent.	Cases Needing Operation Per Cent.	Cases with Iliac Pain but Operation Unnecessary Per Cent.	Cases with No Iliac Pain Per Cent.
No children	90.3	92.0	77.5	67.4
One child	9.7	4.0	14.2	18.6
Two children	0	0	3.0	4.6
Three children	0	0	2.1	3.4
Four children	0	0	1.1	3.4
Five or more children	0	4.0	2.1	2.6
Average number of children	0.1	0.2	0.4	0.6

It is interesting that with such a large percentage of Neisser infections, during three years there has been no case of vulvovaginitis or urethritis among the thirty-five children and babies. There have been five acute eye infections and one case of gonorrheal iritis of hematogenous origin. It may be well to keep in mind, however, the fact that, estimated conservatively, from 30 to 50 per cent. of all blindness[5] is caused by this disease.

2. *The length of time the disease had existed without treatment and the time needed for the disappearance of the clinical symptoms.*—The following facts show how little treatment the disease has had in the community.

Of 378 cases giving a clinical history of gonorrhea, only four patients (1.0 per cent.) had received adequate medical treatment. Five patients (1.3 per cent.) had received some medical treatment besides taking douches, and 47.6 per cent. had taken douches but had had no medical advice. This means that 52.3 per cent. had had no treatment whatever, while 95.0 per cent. had had inadequate treatment.

When one knows that the majority of the 500 women have at some time been in prostitution, the lack of medical supervision among this class can readily be seen. The fact that douches were taken in over 47 per cent. of the cases seems neither to have prevented the disease nor to have had marked effect on the symptoms.

The question may be raised whether our class of women is representative of the so-called "high-grade" prostitute. Skilled investigators on the various vice commissions, however, report that the same conditions exist among all grades.

The treatment of the disease, after it has run such a long course, has been in our experience most unsatisfactory. In a class of women including so many psychopaths, too strenuous treatment had to be abandoned; hence we have found it impracticable to use anything as strong as silver nitrate solutions. The method which usually has been employed is thorough cleaning of the vagina and cervix and the application to the cervical canal and the vaginal walls of Churchill's tincture of iodin. This has been supplemented with a tampon of boroglycerin, ichthyol and glycerin or a saturated solution of picric acid. For months at a time the picric acid alone has been used on tampons with good results. It seems to have the desired effect of causing the mucous membrane of the vagina to slough off in a wholly painless way, apparently reaching the part of the mucosa in which the organisms are imbedded. In many cases where there is pelvic inflammation, frequent long, hot douching (every two hours) with a strong solution of potassium permanganate has been used, supplemented by the ice bag when necessary. Cases which do not yield to such medical treatment, with eventual cessation of all pain, are considered operative cases and are treated surgically

---

[5] Norris Gonorrhoea in Women, W. B. Saunders Company, 1913, p. 128.

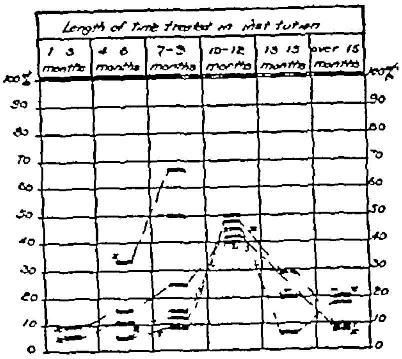


Chart 1 —Graphic representation of 111 cases of gonorrhea (Table 8) showing length of time treatment was necessary before clinical symptoms disappeared Classes 1 to 6 refer to duration of disease before treatment was begun Class 1 one to three months Class 2 four to six months Class 3 seven to eleven months Class 4 one to five years Class 5 six to nine years Class 6 over ten years

As the routine medical treatment of gonorrhea gives unsatisfactory results at best when the organism has already invaded the tissues to any extent, more active treatment of the uterine mucosa — such as curettage and iodinization — seems the only method that offers hope of satisfactory results How practical such treatment would be in a penal institution, however, remains to be proved Vaccine therapy, even in children, in whom it is supposed to give the best results, has not, in our experience,[6] produced the results that are claimed for it This tends to make us rely the more on the actual treatment of the infected tissues themselves

TABLE 8 —CLASSIFICATION OF 111 CASES OF GONORRHEA SHOWING LENGTH OF TIME TREATMENT WAS NECESSARY BEFORE CLINICAL SYMPTOMS DISAPPEARED

Duration Before Treatment	Treated 1 3 Months		Treated 4-6 Months		Treated 7 9 Months		Treated 10-12 Months		Treated 13 15 Months		Treated Over 15 Months		Total of 111 Cases	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%
Class 1 1 3 months					1	50	1	5					2	1
Class 2 4-6 months			1	33	2	67							3	1
Class 3 7 11 months	1	9	2	16	3	25	5	42			1	8	12	4
Class 4 1 5 years	3	6	6	11	7	13	24	45	4	7	9	18	53	17
Class 5 6-9 years			1	5	2	9	10	48	6	29	2	9	21	7
Class 6 10 years +			1	5	3	15	8	40	4	20	4	20	20	7
Total number and percentage of 111 cases	4	4	11	10	18	16	48	43	14	13	16	14	111	100

The 303 positive cases studied in detail (Table 2) are divided into two groups (a) those in whom the clinical symptoms have disappeared and who, after being found negative bacteriologically, have been discharged from treatment, and (b) those who are still under treatment because of the persistence of clinical symptoms

Table 8 shows 111 cases which have cleared up clinically classified according to the duration of the disease before treatment was begun It shows how long in each class treatment was necessary before the clinical symptoms disappeared

Classes 1 and 2 have very little value because of the small number included in each It is interesting, however, that the total course of the disease in both of these classes, including periods both with and without treatment, appears to be about the same, the minimum being about eight months and the maximum about fifteen From this one might judge that if the organism becomes well imbedded in the tissues (and no case comes to us until at least a month after the initial infection), the disease is bound to run a definite course even under fairly favorable treatment In Class 3 in which the infection has lasted from seven to eleven months without treatment, 42 per cent needed ten to twelve months' treatment, while 8 per cent had to be treated longer than ten months Here again the minimum time seems to correspond with that of the two previous classes, that is, about eight months

In Classes 4, 5, and 6 the largest per cent of cases required ten to twelve months' treatment As the time during which the cases were untreated increases, the length of time needed to clear up clinical symptoms will be seen to increase proportionately, giving much larger percentages in the last columns It will also be noted that in the last two classes (5 and 6) there were no cases in which the symptoms disappeared during the first three months The seriousness of the problem in the institution is increased by the fact that 43 per cent of 111 cases in which the clinical symptoms have disappeared required from ten to twelve months' treatment each

Chart 1 shows graphically the data in Table 8

Perhaps the most noticeable thing in this chart is the consistency of Classes 3 and 4, which show relatively larger percentages clearing up in the early months than do Classes 5 and 6 It also demonstrates the large number in each class requiring from ten to twelve months' treatment

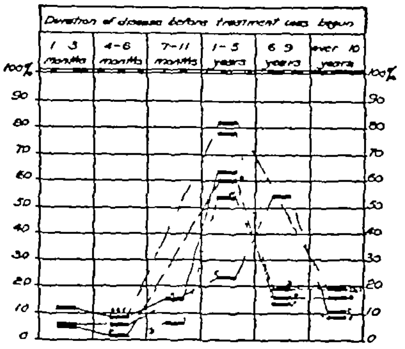


Chart 2 —Graphic representation of 192 cases of gonorrhea (Table 9) at present under treatment showing length of time treated and duration of disease before treatment was begun Classes A to Γ refer to length of time patients have been under treatment. Class A one to three months Class B four to six months Cla s C seven to nine months Class D ten to twelve months Cla s E thirteen to fifteen months Class 1 over fifteen months

Table 9 shows 192 cases at present under treatment Classification A to F is made according to time treated

Thus class A has been under treatment from one to three months

Class B has been under treatment from four to six months

Class C has been under treatment from seven to nine months

Class D has been under treatment from ten to twelve months

Class E has been under treatment from thirteen to fifteen months

Class F has been under treatment longer than fifteen months

---

[6] Spaulding E R Vulvovaginitis in Children Am Jour Dis Child March 1913 p 248

It will be noted that 56 per cent of the total number had the disease from one to five years before treatment was begun, and that 18 per cent had it from six to nine years, while 11 per cent had it over ten years

Chart 2 shows the same percentages graphically

Here again the same general consistency is seen The classes which have been under treatment longest were latest in beginning treatment Again the "one to five year" period appears to furnish the most resistant cases

3 *The prevalence of the disease among women serving sentences for different types of offenses*—In order to learn more of the significance of the disease socially, the 470 cases have been divided into the following three groups

Class 1—The first group includes all women serving a sentence for an offense which probably has a sex basis This includes "Stubborn Child," "Vagrancy," "Lewdness," "Common Night Walker," "Fornication," "Keeping Disorderly House," etc This group is 67 6 per cent of the total number of cases

Class 2—The second group includes those who give a history of promiscuous sex relationship but are serving sentence for some other offense This group is 19 per cent of the total number

Class 3—The third group includes those who give *no* history of sex promiscuity and who are serving sentences for other offenses (13 7 per cent of the total)

The proportions of the positive cases in the three groups are shown in Table 10

Chart 3 presents graphically the percentages in the three classes

A detailed study of the forty-five cases, making up the 13 4 per cent of negative cases in Class 1, may be of interest here

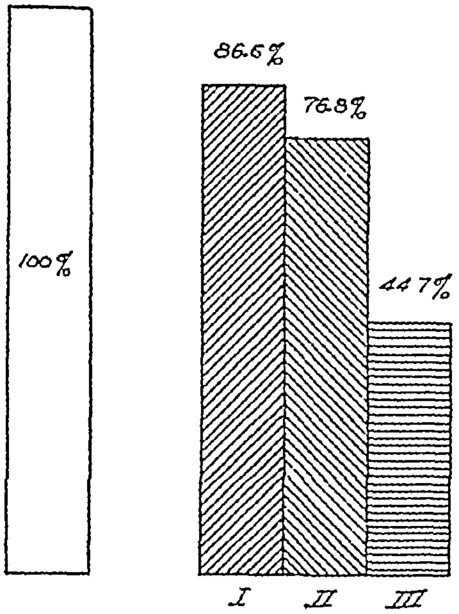


Chart 3—Showing prevalence of gonorrhea among 500 delinquent women classified according to offense Class 1 includes women whose offense has a probable sex basis (67 6 per cent of 500) Class 2 includes women who give history of promiscuous sex relationship but are serving sentences for some other offense (19 per cent of 500) Class 3 includes women without such history or such offense (13 4 per cent of 500)

Thirteen per cent of the negative cases have a positive Wassermann reaction, even though they have escaped gonorrhea Eight per cent of the cases were committed on charge of "Stubborn Child," which, while it probably had a sex basis, may not have signified promiscuous relationships Two per cent of the cases came from country districts where venereal disease was not common Of the remaining fifteen per cent, two cases are serving prostitution charges but evidently escaped both diseases, and the remaining cases, although arrested on a charge of sex basis, gave no history of promiscuousness

This shows that if this group had included only prostitutes, the percentage of gonorrhea would have been higher This has been already demonstrated in a previous report[7] Among 243 women who could have been called prostitutes at some time in their lives over 98 per cent had gonorrhea

Class 2 shows 76 8 per cent of positive cases This is lower than Class 1, as would be expected, but nearly twice that of Class 3

Class 3, which includes no women who have been known to live immorally, has 44 7 per cent of gonorrheics This might seem high were it not for the fact that Neisser[2] believes that 45 per cent of all women have gonorrhea Other authors, however, give much lower percentages among women in general, one giving 4 5 per cent,[3] another 12 per cent[4] Such figures make the per cent of the last class seem high

SUMMARY OF GONORRHEAL DATA

The following facts, which stand out as the result of our study of gonorrhea among delinquent women, seem important in considering the disease with reference to its relation to the community

TABLE 9—CLASSIFICATION OF 192 CASES OF GONORRHEA AT PRESENT UNDER TREATMENT, SHOWING LENGTH OF TIME TREATED AND DURATION OF DISEASE BEFORE TREATMENT WAS BEGUN

Time Under Treatment	Duration of Disease Before Treatment Was Begun												Total of 192 Cases	
	1 3 Months		4 6 Months		7 11 Months		1 5 Years		6 9 Years		10 Years +			
	No	%	No	%	No	%	No	%	No	%	No	%	No	%
Class A, 1 3 months	5	12	4	9	7	16	27	63					43	22
Class B 4-6 months	2	5	1	2			23	60	6	16	6	16	38	20
Class C, 7 9 months	2	6	2	6			8	23	19	54	4	11	35	18
Class D, 10-12 months			1	2	3	7	22	53	8	19	8	19	42	22
Class E, 13 15 months			1	9			9	82			1	9	11	6
Class I, 15 months +							18	78	3	13	2	9	23	12
Total number and percentage of 192 cases	9	5	9	5	10	5	107	56	36	18	21	11	192	100

Sixty-two per cent of the negative cases are women who are serving sentences for adultery or cohabitation Fifteen included in the 62 per cent are foreigners who have been in this country but a short time Most of these are good types of women whose lives in every other respect have been law-abiding For various reasons their unions have not been legalized, but they have not been guilty of promiscuous immorality The absence of disease in these cases is to be expected,

Prevalence—Among delinquent women in general 75 per cent at least have a gonorrheal infection This represents only that proportion who show symptoms of the disease while under our supervision and often during a single examination It is a conservative estimate of the number who at some time have had the disease Among the prostitute class, however, the proportion of gonorrheics increases to over 98 per cent

---

[7] Spaulding, E R Mental and Physical Factors in Prostitution, Women's Med Jour, July 1914

Important Complications—1 Sixty-seven per cent of the positive cases present symptoms of pelvic inflammation while 40 per cent become surgical cases

2 The birth rate appears to be diminished over one half on account of the disease, and 35 per cent of the positive cases present "one-child sterilities"

3 Gonorrheal ophthalmia and endocarditis are among the serious complications

Period of Infectiousness in the Community— The majority of cases have apparently run an uninterrupted course sometimes for a period of twenty-five years, without having had any treatment During that time the women have been a prolific source of infection in the community, causing indirectly the same complications of surgical conditions, sterility and blindness among the innocently infected which they themselves have had

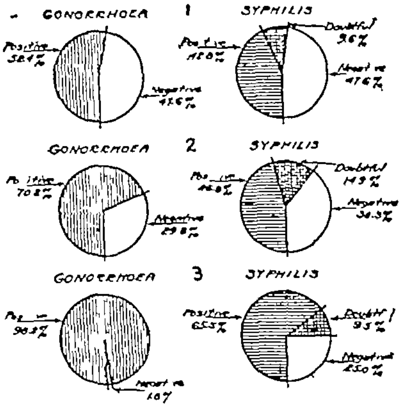


Chart 4 —Graphic representation of prevalence of venereal disease (1) among sixty three women (12 5 per cent of 500 consecutive cases) arrested for alcoholism only (2) among ninety four women (18 4 per cent of 500 consecutive cases) arrested for alcoholism and other offenses (3) among 243 women previously studied (60 8 per cent of 400 consecutive cases) who at some time had been in prostitution

Prognosis—The amount of treatment needed for the disappearance of clinical symptoms depends on the duration of the disease before treatment is begun The average length of time that these cases were untreated was over four years After the disease had lasted from four to six months without treatment, the majority of cases require from ten to twelve months' treatment before symptoms subside and the bacteriologic examination becomes negative (Chart 1 and Table 8) The majority of those whom it has been necessary to treat over one year had the disease from one to twenty years before treatment was begun (Chart 2 and Table 9) During the "one to five year" period, the vaginal discharge is most resistant to treatment, the tendency being to lessen in virulence after that period The tendency to pelvic complications, however, seems to continue actively for at least ten years and in many cases much longer

TABLE 10—CASES POSITIVE FOR GONORRHEA

Class	Total Per Cent of Positive Cases	Positive Clinically and Bacteriologically Per Cent.	Positive Clinically Alone Per Cent.	Positive Bacteriologically Alone Per Cent
1	86 6	74 2	10 9	1 5
2	76 8	65 5	7 2	4 2
3	44 7	31 4	11 8	1 5

4 *The comparative frequency of gonorrhea and syphilis among different types of delinquents*

Chart 4 shows the prevalence of venereal disease among three classes of offenders

1 Women arrested for alcoholism alone

2 Women arrested for alcoholism and other offenses

3 Women who have been in prostitution

1 Among sixty-three women (12 5 per cent of 500 consecutive cases) arrested for alcoholism only, we find gonorrhea 52 4 per cent and syphilis 42 8 per cent, while 9 6 per cent show a doubtful Wassermann reaction These are high percentages for alcoholism alone and tend to substantiate the belief that alcoholism seldom remains the only offense

2 Among ninety-four women (18 4 per cent of 500 consecutive cases) who were arrested for alcoholism and for other offenses also, gonorrhea was found in 70 2 per cent and syphilis in 46 8 per cent with 14 9 per cent showing a doubtful Wassermann reaction

3 Among 243 prostitutes (60 8 per cent of 400 consecutive cases) we find gonorrhea 98 2 per cent and syphilis 65 5 per cent, with 9 5 per cent showing a doubtful Wassermann reaction These are appalling percentages from the standpoint of the community as well as from that of the individual, and make one realize the menace of the two diseases in their social aspect

Chart 5 shows the problem of venereal disease as it relates to delinquent women in general

Among 500 consecutive cases we find 75 7 per cent with gonorrhea, 44 7 per cent with syphilis, and 9 3 per cent with a doubtful Wassermann reaction At the New York Reformatory for Women,[8] Bedford Hills, New York, 73 per cent of the women had gonorrhea and 51 per cent had syphilis These results, which represent the work of different laboratories on different groups of women, show surprisingly uniform percentages

In 119 women (24 per cent of 500), who on account of mental defect should be permanently segregated, we find gonorrhea 90 8 per cent and syphilis 61 3 per cent with 6 7 per cent with doubtful Wassermann reactions

CONCLUSIONS

Three methods present themselves as means of dealing with venereal disease among delinquents

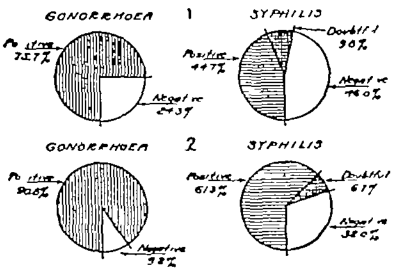


Chart 5 —Graphic representation of prevalence of venereal diseases (1) among 500 delinquent women (consecutive cases) (2) among 119 cases (24 per cent of the 500 cases) who on account of mental defect should be permanently segregated

1 The medical problem of venereal disease is very closely associated, as has already been seen, with mental and social problems Among the 24 per cent of our women[9] who, after careful study, have been considered candidates for permanent segregation, syphilis was found to be about 61 per cent while gonorrhea was over 90 per cent These women have proved themselves to be irresponsible members of the community They are all defective intellectually according to psychologic tests They have, besides a bad social record, no home where

---

[8] Davis, K. B Proceedings of the Annual Congress of the American Prison Association Indianapolis 1913

[9] Spaulding E. R Our Criminal Problem from the Standpoint of Classification and Segregation Boston Med and Surg Jour Oct

MEDICAL CO. LIBRARY
Dr. Robert Fletcher Library

they can be given suitable supervision If we provide for their segregation, we not only remove their immoral influence from society and prevent the continuance of similar types in the next generation, but we remove just so much actual disease from the community

The argument may be brought forward, particularly by the layman, that most of our women, especially in our mill towns, associate only with their own type, which does not endanger society as a whole Even if this were true, they would tend to infect individuals who, if crippled mentally or physically by disease, would become public charges and an additional expense to the taxpayer This would be an additional argument, economically, for the permanent segregation of mental defectives, especially among delinquents

Before such segregation is possible, however, greater facilities must be furnished by the state for their care, and the judges, through whom the commitments must be made, must be shown the need of their segregation

2 The second method of combating the disease would be the early diagnosis and the intensive treatment of all persons who pass through the courts and are detained in public institutions on any charge

The ideal treatment of prisoners according to our most advanced criminologists is the mental, physical and social examination of all persons before they are seen by the judge When such information is obtained before trial, the fact that the prisoner needs treatment for diseases so dangerous to public welfare should influence the judge in his decision, especially when the offense of the prisoner tends to spread such disease As a help toward this, a law[10] is already in existence in Massachusetts which provides for the treatment of syphilitics while the disease is in a communicable form

As over 25,000 persons were sentenced to penal institutions during the year ending September 30, 1914, it would seem possible, by suitable treatment, to accomplish much under the present régime This should include the universal application of the Wassermann test and the bacteriologic tests for gonorrhea, with insistent treatment for the two diseases while in the institution The indeterminate sentence makes it possible usually to hold gonorrheics until they have cleared up clinically, while the law mentioned above enables us to hold syphilitics as long as it seems necessary

3 The third and most important method would be the provision of hospitals throughout the country for the treatment of such persons, if necessary, free of charge, before they become our patients Even in the time of Henry VIII there were six hospitals in London devoted to the treatment of venereal patients Even though, in this present generation, hospitals for the exclusive treatment of venereal disease are not considered feasible on account of the stigma which would be attached to them, there seems to be no argument against special wards in all hospitals where such treatment could be given

While we do not recommend a segregated district and attempted medical supervision of prostitutes, we do believe in limitless opportunity for treatment in the place of the at present existing conditions Fortunately, in Massachusetts the hospitals are beginning to admit patients with these two diseases[11]

The three methods of treatment which have just been described lie in the province of the physician Although it is outwardly a social problem, and calls for legislation and much social effort, it is fundamentally a medical one and will only progress as the physician appreciates his responsibility and enlists his interest and influence

---

THE INCIDENCE OF SYPHILIS AMONG JUVENILE DELINQUENTS

ITS RELATION TO MENTAL STATUS [*]

THOMAS H HAINES, PH D, M D
COLUMBUS, OHIO

The Wassermann tests of serum obtained from the Boys' Industrial School and the Girls' Industrial Home, in Ohio, herein reported, were made by Dr Walter McKay, assistant physician of the Institution for the Feeble Minded, Columbus, Ohio, and the specimens of blood were collected by Dr Walter A Noble of the Bureau of Juvenile Research Dr Noble also made the physical examinations reported To the careful work of these gentlemen is due the credit for the work here presented The technic of the Wassermann tests, as executed by Dr McKay, is that "described and recommended by Captain Charles F Craig, of the U S Army Medical Corps, Bulletin 3, published by the surgeon general," with one change Dr McKay used sheep's blood amboceptor and corpuscles His method of reading the reaction is the one outlined by Dr W T Mefford of the Wassermann Laboratory, Chicago, calling the strongest positive reaction four plus (+ + + +), and the weakest positive reaction one plus (+), while the three plus (+ + +) and two plus (+ +) reactions are judged by the appropriate dilutions Throughout the work Dr McKay used controls as described by Dr Mefford

TABLE 1—BOYS AND GIRLS EXAMINED

	Boys	Girls	Total
Total number tested	147	218	365
Number of positive and doubtful Wassermanns	34	42	76
Percentage of positive and doubtful Wassermann reactions	23 1	19 2	20.8

Table 1 exhibits the numbers of boys and girls whose serums were examined, the numbers yielding positive and doubtful results and the percental relations of these numbers to the total numbers examined There was no selection of these cases They were taken, as nearly as could be, in groups as admitted to the institutions

Table 2 exhibits the distribution of cases according to numbers of tests made on each individual, and the character and strength of the reaction Nine of the boys were tested twice Of the girls, fourteen were tested but once, twenty were tested twice, and eight were tested three times

In some cases the first negative reaction was suspected of being faulty, on account of technic, and later examination proved this to be true For example, it may be noted that two cases yielding a negative reaction in the first test, on the second testing yielded a four plus reaction Likewise, two cases, first reported negative, yielded three plus reactions on both second and third testings In general, repetitions were made for removing all doubt in already positive cases

---

[10] Revised Laws of Massachusetts, 1902, i, Chap 75, Sec 48

[11] Post, Abner Syphilis, Boston Med and Surg Jour, July 29, 1915, p 161

[*] From the Bureau of Juvenile Research, Columbus, Ohio

In regard to the character of the reaction, it is interesting to note the relatively large numbers of subjects yielding four plus and three plus reactions Out of the total of seventy-six positive or doubtful reactions obtained, we find forty of these to be either four plus or three plus reactions

Table 3 exhibits the distribution of these seventy-six boys and girls with respect to chronological ages The age is reckoned in each case as being of the nearest birthday For example, a boy who is 12 years and 5 months of age is reckoned as 12 years old On passing 12 years and 6 months he is reckoned as 13 years of age, and is considered 13 years of age until he reaches 13 years and 6 months, so that under each year of age we may have individuals varying in age from six months previous to that year to the six months after that year The largest number of boys is found at 15 years The largest number of girls is found at 16 and 17 years, there being twelve individuals in each one of these age groups The average age of the thirty-four boys is 14 years and 11 months The average age of the forty-two girls is 15 years and 11½ months

TABLE 2—CASES ACCORDING TO NUMBER OF TESTS

	Once Tested		Twice Tested		Three Times Tested	
	Reaction	No of Cases	Reaction	No of Cases	Reaction	No of Cases
Boys	++++	6	++++ ++++	3		
	+++	14	++ ++	3		
	++	5	+ +	2		
			++ —	1		
Girls	+++	2	++++ ++++	2	++++ ++++ ++++	1
	++	7	++++ +++	2	++++ +++ +	1
	+	5	++++ ++	1	++++ ++ ++	1
			+++ +++	1	+++ + +	2
			++ ++	6	++ + +	1
			++ +	1	— +++ +++	2
			— ++++	2		
			— ++	2		
			+	8		

In regard to the social status of these individuals, they are all cases committed to reform schools because of delinquencies of various sorts

Table 4 presents a summary of the complaints and offenses mentioned in the commitment papers of the boys and girls yielding the positive and doubtful Wasserman reactions Some commitment papers mention more than one offense, hence the sum of offenses more than equals the total number of boys and girls With boys the leading offense is that of larceny—seventeen cases With girls, on the other hand, sexual offenses lead with a total of seventeen. To these should probably be added four cases of immorality This usually means sexual immorality Seven boys and ten girls are set down as incorrigible It is safe to assume that a large percentage of these ten girls are immoral The distribution of offenses in this group of delinquents yielding positive Wassermann reactions is not, in any wise, different from the distribution of these offenses among the total number of admissions to these reform schools The same may be said concerning the ages The ages indicated in Table 3 are typical of the total number of admissions to these reform schools

It is required by law that every person committed to a reform school shall have been examined by a physician, and be accompanied by a medical certificate An examination of the medical certificates of thirty-three of the girls yielding positive or doubtful Wassermann reactions yielded the data exhibited by Table 5 We find thirteen of these girls certified as being in good health A physician's O K is put on each one of these thirteen cases In four cases vision is certified as impaired, in ten cases it is stated that there is a *"vaginal discharge," or she "has gonorrhea," or "has* had gonorrhea," in four cases a question is raised in respect to venereal disease, in one the girl is "said to have had a profuse eruption on limbs," and one has been "treated for syphilis in a hospital"

TABLE 3—AGES IN POSITIVE OR DOUBTFUL REACTIONS

	Year of Age						
	12	13	14	15	16	17	18
Boys		5	5	12	6	4	1
Girls	1		5	8	12	12	4

Thus, out of thirty-three cases in which the Wassermann tests yielded definite evidence of syphilitic infection, only one girl is known to have had syphilis, one is thought to have had symptoms of the primary stage of syphilis, and in four cases there is a question of venereal disorder, but this question seems to have gravitated entirely in the direction of infection by the gonococcus This is certainly striking evidence both of the value of the Wassermann reaction in the study of such institution cases, and of the imperative need for its use This value and this need are both in the service of the therapeutics of the individual and for social protection *In no institution case should the* person be allowed to go at large until the positive reaction has been changed to a negative

Even less indication of syphilitic infection is obtained in the subjects' accounts of their previous illnesses This, of course, tallies with general hospital experience, especially in the cases of females In a large percentage of cases there can be no doubt that the female patient is and remains entirely unaware of the nature of the syphilitic infection The primary stage of syphilis, in many cases, passes unrecognized and in other cases, while recognized by the profession, the patient remains in ignorance of it In these accounts of their own illnesses the patient was asked in a general way to name her previous illnesses No specific question in regard to venereal disorder was asked Under these circumstances it is hardly to be expected that any hint would be obtained of syphilitic infection *One of the* forty-two girls acknowledged having had treatment for gonorrhea No other patient mentioned any venereal

TABLE 4—OFFENSES OF BOYS AND GIRLS YIELDING POSITIVE OR DOUBTFUL WASSERMANN REACTIONS

Offenses	No of Boys	No of Girls
Robbery or burglary	3	
Larceny stealing theft	17	6
Picking pocket	1	
Delinquent or juvenile disorderly person	3	7
Incorrigible	7	10
Truant	3	
Assault	1	
Immorality or immoral acts	1	4
Sexual offender		17
Attempt to rape	1	

disorder or referred to any disorder of the mucous membrane or the skin The ailments mentioned are measles, diphtheria, scarlet fever and other childhood disorders, smallpox, pneumonia, typhoid fever, malaria and spinal meningitis

In regard to physical examinations of thirty of these forty-two girls, it is interesting to note the negative evidence in regard to congenital syphilis No case exhibits Hutchinson's teeth or saddle nose In regard to reflexes, not one of the thirty cases shows any disturbance of pupillary reflexes Pupils are equal and react normally to light and accommodation in every case The examination of deep reflexes does show remarkable anomalies Only three of the thirty cases show both triceps and patellar reflexes normal Four cases show normal triceps and exaggerated patellars Two cases show normal triceps and absent patellars Two cases show exaggerated triceps and normal patellars One case shows absence of triceps and normal patellars One case shows exaggerated triceps and diminished patellars One case shows diminished triceps and exaggerated patellars Three cases show both triceps and patellars greatly exaggerated Five other cases show both triceps and patellars exaggerated In six cases there is shown an absence of both patellars and triceps Presenting the facts more *en masse*, as in Table 6, we find exaggerated triceps and patellars in over 40 per cent of the cases examined, and absent patellars and reflexes in about 28 per cent of the cases examined, while about the same percentage present normal triceps and patellar reflexes In only three cases were ophthalmoscopic examinations made, and two of these were judged cases of early optic atrophy

TABLE 5—PHYSICAL CONDITION OF THIRTY-THREE GIRLS YIELDING POSITIVE OR DOUBTFUL WASSERMANN REACTIONS

Physical Condition	No of Cases
Physical condition certified "all right"	13
"Vision not perfect" or "needs glasses"	4
"Has vaginal discharge" or 'has gonorrhea" or "has had gonorrhea"	10
"A question of venereal disease"	4
"Said to have had profuse eruption on limbs"	1
"Treated for syphilis in hospital"	1

It seems from these facts concerning the ages of the girls in question, and the complaints on which they were sent to the reform schools, to be highly probable that many of these cases of syphilitic infection are acquired The evidence has not excluded congenital syphilis in any single case, but it opens the possibility for individual acquirement of the infection These girls have exposed themselves to such infection Every one is probably guilty of sexual immorality on repeated occasions, and with various individuals As further evidence making for the probability of individual infection, we may cite the cases of two girls not comprised in this report, both of whom exhibited mucous membrane lesions to such an extent that the designation "mucous patch" was no longer applicable More than half of the mucous membrane of the mouth and visible pharynx was involved An exceedingly uncomfortable looking ulceration prevailed in this mucous membrane In one of these cases a strong positive reaction was obtained In the other a negative reaction was obtained in January when the ulcerated mucous membrane had been cleared up by treatment since the previous October One of these girls belongs to a well known family of high grade feebleminded persons, and while we cannot report Wassermann tests on other members of the family, we have reason to doubt that any of them, comprising a large family of siblings of this case, have recently had any such exhibition of primary syphilis as that of the case in question This girl, furthermore, is known to have exposed herself It is impossible to charge the feeblemindedness in this family to syphilitic infection until further evidence is forthcoming

We have under investigation a girl of 16, with a mental development of about 8 years, and her father, a man of 47 years with a mentality of 9, confined in the state penitentiary for incest with this daughter These individuals belong to large fraternities of feebleminded persons with criminal tendencies, and their ancestors, so far as traceable, have been found to be low in mentality — shiftless mountain people, and costly to the state and community because of their criminal tendencies Both of these subjects yield negative Wassermann reactions in their serums With a prevalence of the tendency of sexual immorality and the low grade of mentality, it is certainly surprising to find both of these individuals free from syphilitic infection Such, however, is the case The possibility of immunity from syphilis must have consideration in these cases This family certainly suggests the need of caution in attributing etiologic significance to syphilis in cases of feeblemindedness

As further evidence of the need of caution in considering any of these cases congenital, we may cite the cases of two pairs of sisters, coming at different times to the institution, the sisters in each pair coming at the same time In each of these cases one sister yielded a positive Wassermann reaction, and the other a negative reaction Of course, such facts are not incompatible with congenital syphilis Many cases of younger children, in which individual infection was very highly improbable, have yielded similar results, one member of the family yielding a positive reaction, and other members being negative

One of the girls comprised within this list of positive reactions, yielding on three different examinations a four plus, a one plus and a three plus, has a father in another institution His blood yields a negative reaction, according to Dr Kramer He is in the penitentiary for manslaughter, accused of poisoning his wife The girl is 17 years of age, and is committed as incorrigible, a sexual offender and alcoholic Until evidence is forthcoming that the deceased mother was syphilitic, it is reasonable to assume that this girl has contracted syphilis by her own loose living

TABLE 6—REFLEXES IN GIRLS YIELDING POSITIVE OR DOUBTFUL WASSERMANN REACTIONS

	Normal	Exaggerated	Absent
Triceps reflexes	10	12	8
Patellar reflexes	7	13	9

Another case of an 18-year-old girl yielding a four plus Wassermann, and being normal in her intelligence, though very unstable in her moral organization, seems to point the way to her infection Her account of her fraternity indicates that she is the youngest of ten living children Most of the others are married and have children All seem to be straight except her next older sister, who, she says, has pursued the same methods as herself As for herself, she acknowledges having married about two years ago in a southern state, having left her husband in a few weeks, and having lived at different times with eight or nine different men This case in itself is not evidence for individual infection, but the family should not have the burden of syphilis laid on it until more is known about the case She, herself, has taken scores of chances of contracting syphilis

In regard to the mental status of the individuals herein reported as yielding positive Wassermann reactions, Table 7 shows the distribution into classes, the definitely defective, the subnormal, and those showing no intelligence defect This distribution has been made as the result of the combined point scale and year scale examinations The distribution follows pretty closely that of the general populations of these two institutions into these three groups Roughly, they are about one third in each group There is a preponderance of defective girls in this group of forty-two, sixteen being 38 per cent of the total group These figures do not warrant one in drawing any inference as to the cause of feeblemindedness being syphilitic infection The close correspondence of this distribution, as shown in Table 7, to that of all the persons coming to these institutions, seems to exclude congenital syphilis as a cause or associated cause of feeblemindedness I do not mean to put this forth as a piece of logic, but rather to indicate that the question must be left an open one, and that the burden of proof is with those who would prove congenital syphilis a cause of feeblemindedness Such delinquents are, no doubt, delinquents because they are defective They may be syphilitic because they are defective, their low intelligence and easy influenceability making them easy prey to infected persons On the other hand, however, they may be defective because the family stock has been syphilitic This may even be a latent syphilis which cannot be found by examining the serum Some of these cases yielding positive serums are very likely cases of congenital origin Many others of our feebleminded delinquents may be feebleminded because of impaired germ plasm in their parents, being permanently lamed and handicapped because of parental syphilis and yet not infected themselves They have inherited the results without inheriting the organism itself This, however, may remain in the speculative stage until more evidence is forthcoming

TABLE 7—MENTAL STATUS IN CASES YIELDING POSITIVE WASSERMANN REACTIONS

	Defective	Subnormal	No Intelligence Defect
Boys	12	12	10
Girls	16	14	12

One of the important lines of evidence needed is that to be gathered from the exhaustive clinical studies and family histories of families having members, some of whom are feebleminded, some psychopathic, and some syphilitic Cooperative work of this sort between clinicians, laboratory workers and field workers, in institution cases, should clear up some of these mooted questions

For the present, we have undoubted evidence of syphilitic infection among delinquent boys and girls committed to these reform schools in about one fifth of the cases examined, as a matter of routine, on or soon after admission This percentage is difficult to compare with the percentage among the population at large, because data so far collected are either from institutions, or from practice in which patients come because of clinical symptoms That it is an extraordinary percentage seems to be beyond question, however, for the percentage of positive and doubtful Wassermanns obtained in the year 1913, as the result of routine examinations in about 1,600 cases, including practically all the admissions to the Boston Psychopathic Hospital, was 14 7 per cent These 1,600 cases embrace practically all of the acute mental disorders occurring in the metropolitan district about Boston, comprising about one third of the population of the state of Massachusetts Such cases would naturally comprise all mental disorders due to syphilitic infection, which we know to be a large percentage of freshly occurring cases It would comprise all new cases of general paralysis of the insane coming for state care The percentage of positive Wassermann reactions in such a hospital population one would reasonably expect to be far beyond the percentage of positive reactions in the community at large This percentage, then, of over 20 per cent found in 365 cases examined in reform schools in Ohio seems to indicate a large preponderance of syphilitic infection among these juvenile delinquents — much larger than in the community at large

In conclusion, therefore, from the evidence at hand it seems impossible to charge congenital syphilis as a cause of the mental impairment in these cases of delinquents

SUMMARY

1 No larger percentage of those yielding positive Wassermann reactions are defective in intelligence than in the general population of these reform schools

2 There is complete absence of evidence of the signs of congenital syphilis in thirty positive cases examined

3 Cases of positive Wassermanns, with sister or father yielding a negative Wassermann, point to individual infection

4 In a feebleminded family, of criminal tendency, and especially sexual offenders, father and daughter yield negative serums

5 The court charges against the girls in a majority of the cases, and the extent of sexual immorality, allow of abundant opportunity for individual infection

6 The absence of evidence of syphilis in personal history and in the medical certificates can be given no weight either for or against individual infection

7 The absence or exaggeration of deep reflexes without difference in the two sides of the body, and without disturbance of the light reflex of the pupil indicates that if these signs are due to syphilis of the nervous system, they are early signs, and so far tend toward evidence for individual infection

---

Automobile Fatalities—The *Weekly Bulletin* of the Newark Department of Health gives a tabulation of deaths from automobile accidents From 1909 to 1914 there were deaths as follows Buffalo 125 Chicago 493, New York City 1 120 Newark 54 Pittsburgh 140 Providence 80 St Louis 116 San Francisco 116 Washington 84

FULLERS' EARTH IN THE INTESTINAL DISORDERS OF INFANTS *

ALFRED F HESS, M D
NEW YORK

Of late the use of kaolin has been recommended for the treatment of a variety of disorders[1] It has been reported to have therapeutic value in enteritis, in furunculosis and in vaginitis, and, more recently, has been recommended for application to the nose and throat in infections of these organs[2]

The underlying basis of this type of therapy—the use of nonabsorbable substances—is not thoroughly understood, some believe that its value is due to the inhibition of the growth of bacteria, and others that, because of its adsorptive property, it possesses antitoxic value Influenced by these favorable reports I prescribed kaolin in the intestinal disorders of infants For this purpose it was either mixed with the milk or was given by the teaspoon The results in either case were disappointing In normal infants, kaolin occasioned only a slight degree of constipation, and in those manifesting diarrhea it was found not to reduce the number of stools materially Dissatisfied with the results of kaolin I turned to the use of fullers' earth Although these two substances are considered synonymous in the United States Dispensatory and the National Dispensatory they are by no means alike, either in their composition or physiologic action It is difficult to give a standard analysis of fullers' earth, as it differs considerably, depending on the location in which it is obtained However, the following analysis of this earth, as well as that of kaolin may be regarded as typical

	SiO_2	$Al\ O_3$	$Fe\ O_3$	CaO	MgO	Alkalies	Water
Kaolin	45 40	37 34	1 92	0 44	0.20	0 52	14 0
Fullers' earth	57 26	18 33	1 87	2 58	1 06		18 4

It will be seen that there is a considerable difference between the two substances, the main distinction being that kaolin has a far greater amount of hydrous aluminum silicate, and fullers' earth considerably more calcium They are different, however, not only in their chemical composition, but also in their physical properties One of the most noteworthy characteristics of these earths is their power to absorb various alkaloids In view of this fact, they have been recommended[3] as antidotes in the case of various alkaloidal poisonings In this respect fullers' earth stands preeminent, as it is characterized by its porosity and, as shown by Parsons[4] "carries an unusually large proportion of colloids of high adsorptive power" In this quality various specimens of earth are by no means uniform This adsorptive property can most readily be tested by determining the quantity of earth required to remove from solution a given amount of dye In making tests of this kind, we followed the procedure recently recommended by Fantus,[3] in which a 1 per cent malachite green and 0 25 per cent morphin solution are employed It seems hardly necessary in a paper presenting a clinical view to give the data of these various examinations The results may be summarized by the statement that fullers' earth possessed a greater degree of adsorptive power than kaolin, but that among the six specimens of earth which were obtained from various parts of the United States, there were marked individual variations

It was realized, however, that the value of these earths in the intestinal tract cannot be determined by their ability to adsorb dyestuffs, but must be learned by direct clinical observation and experience Accordingly, fullers' earth was given to a considerable number of normal infants, in order to test its physiologic effect, to this end, 1 ounce of the earth was given in the day's feeding This mixture was taken without difficulty by the infants, and was found to occasion no disorder whatsoever Its sole effect, which may be stated to have been constant, was that it induced constipation The stools became firm, dry and formed, indeed, in some cases the constipation became so marked that the addition of the earth had to be discontinued The preparation was then given to infants suffering from indigestion, as manifested by diarrhea, accompanied in some instances by vomiting In these cases, the earth was either added to the food, consisting of the diluted milk, or it was given by teaspoon every hour or two Either or both of these methods can be used No difficulty was experienced in giving the powder suspended in a little water, especially when it was sweetened by means of saccharin (two-fifths grain to 1 ounce of fullers' earth) In severe cases of enteritis, no food whatsoever was given, but merely teaspoonful doses of this preparation as often as every half hour In some cases it was fed through the stomach tube — 1 or 2 tablespoons being introduced in this way three times a day[5]

As in every type of therapy, success is not invariable We may state, however, that this therapeutic agent has had a greater effect on inhibiting the diarrhea than has bismuth, chalk mixture or other drugs which are commonly used for this purpose In some cases it has also seemed to exert a sedative effect on the stomach, as judged by the fact that vomiting ceased in the course of this treatment In no instance were any harmful effects noted, although the earth was given to patients suffering not only from enteritis, but also from pneumonia and nephritis

When we turn to consider the modus operandi of this treatment, we tread on ground that is by no means firm We know that this earth, as Fantus has shown, is "capable of lessening in the human the absorption of substances that are readily absorbed" It is therefore possible that this property is of value in its therapeutic application — that it adsorbs toxins and bacteria, which would otherwise be harmful for the body In this connection we may add that experiments carrried out with solutions of dye showed that casein likewise possesses adsorptive properties to a considerable extent This naturally raises the question whether casein does not exert an influence on the intestinal tract and its contents owing to its physical as well as to its chemical composition, and whether we are not giving too little thought and credit to this point of view in our dietetic treatment of diseases It may well be, for example, that part of the therapeutic success which is so regularly obtained by the use of albumin milk (casein or

---

* From the Research Laboratory, Department of Health, New York

[1] Hektoen, L, and Rappaport, B The Use of Kaolin to Remove Bacteria from the Throat and Nose, The Journal A M A, June 12, 1915, p 1985

[2] In three diphtheria carriers in which kaolin was applied to the pharynx in order to rid it of bacilli, it seemed to exert no effect, although it was used many times a day for several days

[3] Fantus, Bernard Fullers' Earth Its Adsorptive Power, and Its Antidotal Value for Alkaloids, The Journal A M A, May 29, 1915, p 1838

[4] Parsons, C L Mineral Technology, Bull 71, Bureau of Mines, Dept of the Interior October, 1913

[5] Lloyd's reagent, a preparation composed of very fine particles of fullers' earth, was given to a number of infants, but did not seem to possess any advantages over the inexpensive common specimens of fullers' earth

protein milk), is the result, not only of the antifermentative action of the casein, but of its adsorptive properties as well. However this may prove to be, I wish to point out the difference in therapeutic efficiency between kaolin and fullers' earth, and also to recommend the use of the latter in the gastro-intestinal disorders which are so common in early infancy.

16 West Eighty-Sixth Street

THE TREATMENT OF INTUSSUSCEPTION

F. J. PARMENTER, M.D.
Fellow of the American College of Surgeons; Attending Surgeon to the Buffalo General Hospital and the Buffalo Children's Hospital
BUFFALO

The treatment of intussusception is that of acute bowel obstruction, and therefore always surgical. At present, laboratory research has established two facts of considerable importance, which make clear the necessity for early operative intervention. These facts are, first, that death is due to the entrance into the body of a certain toxin or toxins, the exact origin of which, whether chemical or bacterial, has not been definitely established. Some believe the toxin exists under normal conditions in the intestine, while others believe it to be formed after the obstruction. It does not matter, if this point is remembered, that "every case of obstruction is absorbing a poison, which if too long continued will kill, in spite of any treatment yet devised."

Second, this toxin can be absorbed only when the epithelial cells of the mucosa are damaged, as they are by the mechanical closure of the bowel, and the resulting distention. The greater the amount of damage to the epithelial cells, the more toxin is absorbed, and the more danger to the patient. Admitting these statements, who of us will undertake to say how much toxin is being absorbed in a given case, or how much poison the patient can stand, any more than one would try to prophesy the outcome of a case of appendicitis, treated medically? Early operation will save practically every patient. Late operations are hopeless, for the reasons just stated.

The following technic is the one which I have used in seven cases. First let us take the simple case seen during the first twelve hours, usually a baby or a young child. As soon as the diagnosis is made, all fluids by mouth are withheld, the abdomen is painted one coat of tincture of iodin U. S. P., and a hypodermic of morphin and atropin given in appropriate dose.

The operating room is then fully prepared, instruments laid out, needles threaded, subcuticular salt solution made ready, and provision made for every emergency which may arise, so that no time will be lost. The surgeon, assistants and nurses are scrubbed and masked, and gloves and gowns donned before the anesthetic is started. Just before anesthesia, the stomach is washed out if frequent vomiting is taking place. The anesthetic, drop ether, preceded by a few drops of oil of orange for the psychic effect, has been the one used.

As soon as the patient is etherized, subcutaneous salt solution is started, the abdomen repainted with tincture of iodin, sheets placed, and the incision made, usually a high median, and unless good relaxation is secured easily, the muscle is infiltrated with novocain. The intestines are not allowed to escape from the abdominal cavity if they can be prevented. Usually, however, this is not wholly possible, and as fast as they appear they are wrapped in gauze moistened in hot salt solution. The intussusception is found and delivered. If much bloody serum is encountered in the peritoneal cavity, it indicates a marked degree of interference with the blood supply. The reduction is accomplished by gently squeezing the intussusception from below, and at the same time making gentle traction on the intestine above. After reduction, if of the ileocecal type, and the appendix is quite dark and congested, it is removed, and at the same time the cause of the intussusception sought for. In babies and very young children, abnormalities of the cecum and appendix or enlarged lymph nodes at the ileocecal junction have been mentioned by writers as important etiologic factors, and must be treated accordingly. The combination of all three was present in my last case. In the adult, intestinal adenoma, polyp or Meckel's diverticulum are too frequently present to be ignored, and careful search must be instituted if a recurrence is to be avoided. The intestine is then returned to the abdomen and the wound closed in the usual manner. Recurrence is extremely unlikely; should this be feared, however, the ileum and cecum can be tacked to the peritoneum by a couple of fine chromic gut sutures.

Drainage of the upper loop may at times be necessary to relieve distention, which aids in limiting the absorption of toxin. However, for the reason stated above, no fear need be felt in allowing the toxic contents of the upper bowel to flow on down over normal mucous membrane.

After the operation, the salt solution is continued, or, in the case of a small baby, given at intervals by an antitoxin syringe, until the patient's condition is satisfactory. This treatment may be necessary for several days. Fisher's solution, consisting of sodium carbonate (crystalline) 10 gm., sodium chlorid 14 gm. and water to make 1,000 c.c., is administered by rectum, by the Murphy drip, to supply fluid and neutralize starvation acidosis. As soon as possible, fluid is given by the mouth, and nourishment started, especially in a baby. Morphin or its derivatives is used in sufficient doses to quiet the patient. If vomiting continues, lavage of the stomach and colon at frequent intervals is carried out, and large amounts of fluids given subcutaneously and by rectum. Draper has found that the feeding of epithelial cells scraped from the duodenum of a freshly killed dog or frog seems to possess the power of neutralizing this toxin, which is responsible for the continuance of the vomiting, and this method of treatment should be tried. The latter forms of treatment would be especially indicated in the middle cases which just escape resection.

It is not my object to discuss the technical methods of operative procedure in cases demanding resection, which would be of interest only to the operating surgeon, but simply to make a plea for a more careful study and earlier diagnosis than have been accorded this condition in the past. True, progress is rapidly being made in diagnostic methods, but there is still room for improvement, and the statistics which I have collected are illuminating. Among fifty-three patients operated on by a considerable number of Buffalo surgeons, twenty-three were operated on in from three to twenty-four hours. Out of these, twenty-two recovered and one died. This was a 3-months-old child, on whom I operated twenty-three hours after onset, a resection being necessary In none of the twenty-two cases in which the patients recovered were resections done The remaining thirty patients were operated on in from one to ten days after the onset, the average being from two to four days Of this number nine recovered and twenty-one died

It must in fairness be stated that these statistics cover a period of nearly ten years, and were the best obtainable, which will account for the large number of late cases, and the consequently high mortality

616 Potomac Avenue

POTT'S DISEASE TREATED BY OPERATION

A REPORT OF SIX HUNDRED AND EIGHTY-TWO CASES *

W E WOLCOTT, MD
House Surgeon, Hospital for the Relief of the Ruptured and Crippled
NEW YORK

Until within the past four years the treatment of tuberculosis of the spine was limited to an attempt at external fixation at the site of disease by means of apparatus, and an ankylosis of the diseased portion of the spine was awaited to bring about a gradual subsidence of the symptoms In the large majority of the cases this was associated with great deformity, especially in the dorsal region In a small percentage of the cases, however, an arrest of the symptoms was secured with very little, if any, deformity, and with practically a normal range of motion, but in the most of these cases the disease involved only two or three vertebrae

In tuberculosis of the spine, as in tuberculosis of the hip or knees, the securing of a firm bony ankylosis gives the patient the best insurance against a recurrence of the symptoms, after the disease has once been arrested That many years usually elapse before this ankylosis is obtained when the ordinary methods of conservative treatment are used is a well-known fact

With the object of hastening this formation of ankylosis and thereby shortening the duration of treatment, the Albee and Hibbs operations were introduced The phenomenal results, reported by both Albee and Hibbs following these operations, naturally attracted the attention of the profession, and doubtless influenced many surgeons to attempt these new operative procedures

A report of the results obtained by many of these surgeons throughout this country will doubtless be of interest and value Through the courtesy of Dr V P Gibney, I was permitted to send out from the Hospital for the Ruptured and Crippled circular letters to something like seventy-five surgeons who, it was known, were interested in or had done either the Albee or Hibbs operation The letters contained question blanks which, when filled out, would indicate the number of cases in which operation had been performed, the location of the disease, what percentage of the cases were benefited by the operation, as well as the percentage not so benefited, and the cause of failure if known An inquiry was also made as to the postoperative complications, as meningitis, abscesses and paraplegia, and also as to the postoperative treatment, whether support was discontinued or continued, and if so, how long A special effort was made in every case to learn from the reporting surgeon his personal opinion as to the efficiency of the operation used, and in what class of cases he deemed the operation indicated In this way the following data were obtained

Dr Edward W Ryerson of Chicago reports sixty cases in which the Albee operation was used The patients ranged in age from 2 to 47 years The location of disease was not given in these cases Twenty-four, or 40 per cent, were reported as having the disease arrested, fifteen, or 25 per cent, as improved, seven, or 12 per cent, unimproved, and ten too recent to report There were four deaths, one of fat embolism, one of miliary tuberculosis twenty-three months after operation, and one of amyloid degeneration one year after operation Dr Ryerson says, "It is only fair to state that many of those now classed as improved, or too recent to report, will undoubtedly make a complete recovery" There were three cases of reoperation, one because the graft was too short and in two cases to refasten a loosened end In three cases there were preexistent abscesses which later opened into the operative field In two cases there was septic infection from operation, and in one case from scarlet fever In three instances there was necrosis of the graft Five paraplegics were operated on and all improved, but two later had recurrence Paraplegia developed in one case one year after operation In concluding his report Dr Ryerson says, "The older children have shown more gratifying results than the younger ones, while the adults have done remarkably well"

Dr J T Rugh of Philadelphia reports forty Albee cases, of which 74 per cent were benefited, the other 26 per cent were not improved by the operation There were two cases of paraplegia, one patient died, and the other was removed and lost track of One patient developed paraplegia three months after operation and died of tuberculous meningitis sixteen months after operation One graft was lost, the cause not being given There was no suppuration in any case Several patients died of pulmonary tuberculosis In these cases the spinal condition was almost always benefited by the operation, but the constitutional state was at fault and they failed because of this Support was used in all cases Children under 14 years of age require longer support than patients over this age

Dr M S Henderson[1] of Rochester, Minn, reports thirty-nine cases with operation in the Mayo Clinic from July, 1912, to July, 1914, thirty-three by the Albee method and six by the Hibbs method The youngest patient was 2 years of age and the oldest 53, with an average age of 27 The average duration of disease before operation was three years and four months The location of disease was one high dorsal, seven middorsal, eight low dorsal and sixteen lumbar Of these thirty-nine patients, twenty-six, or 62 per cent, were improved, one unimproved, nine are too recent to report, one has not been traced, and one improved patient later developed an acute pulmonary tuberculosis and died The postoperative treatment was recumbency for from four to six weeks in adults and from two to six months in children After this a brace for at least one year following the operation, but preferably one year after cessation of all symptoms

---

* Read before the Orthopedic Section of the New York Academy of Medicine, Oct 15, 1915

[1] Henderson, M S Some Observations on the Operative Treatment of Tuberculosis of the Spine, St Paul Med Jour, October, 1914

The conclusions as stated by Dr Henderson were that either operation definitely shortened the treatment of Pott's disease by hastening the ankylosis, but they should not be allowed to supplant recognized orthopedic appliances

Drs H M Sherman and G J McChesney[2] of San Francisco report thirty operations done on twenty-seven children — three children who had double lesions having a Hibbs operation in the dorsal region and an Albee in the lumbar at the same time Of these twenty-seven children, sixteen, or 60 per cent, were benefited Seven of these are up and about without support, and among these are the three children having the double operations and lesions Nine patients are in a satisfactory condition, but still wear jackets Two patients are up without support, but their general condition is unimproved Five have been put back in recumbency because of return of active symptoms Two paraplegics failed to improve after operation In one case an oncoming paraplegia cleared up, but in another, paraplegia developed after operation Abscesses cleared up after operation in three cases, and in two remained unimproved In one case an abscess appeared after a normal healing of the operation wound In four Hibbs and two Albee cases there has been an increase in the deformity after operation Of the deaths, one patient died of tuberculous meningitis five weeks after operation and another died of sepsis eight months after operation All but one case healed by first intention, in this instance there was a septic sinus in the operation field and from it the wound became infected, resulting in a necrosis of the graft, but the ultimate result, so far as the spinal reinforcement was concerned, was most satisfactory

Dr W W Plummer of Buffalo reports thirty-two cases, eighteen of which were Hibbs and fourteen Albee operations Of these 60 per cent were in the middorsal and lower dorsal, and 40 per cent in the lumbar region In these cases, support was continued until all active signs of disease had abated In twenty-nine, or 90 per cent, there were varying degrees of improvement following the operation Two patients remained unimproved, and one died of tuberculous meningitis twelve weeks after operation In six cases there were abscesses present at the time of operation, and in two of these the abscesses have resisted all treatment, with improvement in the others

Dr Henry Ling Taylor reports sixteen Albee operations 62 5 per cent were benefited by the operation, but the remaining 37 5 per cent were not benefited The postoperative treatment was recumbency for six weeks, and then a Taylor brace as long as there was evidence of active disease One patient developed an abscess six months after operation. There was infection without harm in two cases, one paraplegic failed to improve after an Albee operation, and another died of tuberculous meningitis six weeks after operation Dr Taylor concludes his report by saying that his general impression is favorable to the operation, especially in adults

Dr F J Gaenslen of Milwaukee reports twenty-three Albee cases, all of which were dorsal, except one in the sacral region. Of these twenty-three patients, twenty-one, or 91 per cent., were satisfactorily benefited by the operation One of the patients not benefited developed a new focus of disease three vertebrae higher up in the spine, necessitating a second operation which has apparently controlled the condition to date One patient developed a stitch abscess which later communicated with a preexisting tuberculous abscess, resulting in a sinus There was infection at the time of operation in three cases In one case there was necrosis of the upper end of the graft, and in another case of the lower end The first five patients had no postoperative support, but in all of the other cases a plaster-of-Paris jacket was worn for from six to eight months

Dr Andrew R MacAusland of Boston reports twenty-one Albee cases Eighteen, or 85 per cent, were benefited, of the other three cases, one failed of success because of infection, one patient died of miliary tuberculosis, and in the third case, although the graft is in good condition, a paraplegia has developed from an extradural abscess

Dr James C Wilson of Hartford, Conn, reports twenty Albee cases, seventeen of which were dorsal and three lumbar All the patients received varying degrees of benefit from the operation Postoperative support was not used in any case No complications were reported, except that one patient subsequently developed a tuberculous hip One paraplegic improved very slowly, probably because the graft was broken at the time of operation

Dr C F Painter of Boston reports six cases, all in the dorsal or lumbar regions In all, postoperative support was used No complications were reported, except in one case in which the periosteum was separated from the graft, the graft later sloughing out Good fixation of the spine was secured in all of the other cases, but no benefit was noted as the course of the disease was not shortened, nor was the treatment modified or abbreviated in any way by the operation

Dr Hoke of Atlanta, Ga, reports fifteen Albee cases, the history of five of which has not been followed All of the rest, or 66 per cent, of the patients have been benefited by the operation All patients are first placed on a corrective frame in the open air for from one to three months before operation The operation is only done when the general condition is satisfactory There were no infections or complications except in one case, in which the patient developed a small skin slough Dr Hoke expresses himself as having the highest opinion of the Albee operation as a phase of the treatment of Pott's disease He considers postoperative support necessary, and lays great stress on the importance of choosing the proper time for operation

Dr W W Hoyt of Chicago reports twelve Albee operations, from eleven of which, or 88 per cent, the patients were benefited One patient had a double lesion, eight were middorsal and three dorsolumbar Postoperative support was not used Two patients had abscesses at the time of operation Uremia was given as the cause of failure in the case in which the patient was not benefited Dr Hoyt reports himself as being favorably impressed by the results he has thus far obtained

Dr R W Billington of Nashville, Tenn, reports eight Albee cases, in five of which, or 62 per cent, the patients were benefited Two were low cervical, three dorsal and three lumbar Two of the patients had abscesses at the time of operation The postoperative treatment was seven weeks in recumbency on a frame or plaster-of-Paris bed, followed by a plaster-of-Paris jacket for four to sixteen weeks One patient, having a sharp kyphosis, developed a skin slough baring the lower end of the graft, the removal of which was followed by prompt healing of the wound In one of the lower lumbar cases the graft failed to unite to the sacrum The third patient, having a pulmonary tuberculosis at the time of operation, showed a postoperative improvement for one year, after which the pulmonary infection again became very active This patient then developed a lumbar abscess and died eighteen months after operation

---

[2] Sherman H M and McChesney G J Bone Splinting in Vertebral Tuberculosis California State Jour Med December 1914

Dr Packard of Denver reports three Albee cases, in all of which the patients have been benefited by the operation Two of the cases were dorsal, the other dorsolumbar Postoperative support was used No complications followed

Drs Lord and Orr of Omaha report one case, in which the patient benefited by an Albee operation Recumbency for several weeks, and then a jacket, was the postoperative treatment used

Dr Albee reports 198 cases in which operation was performed by him before Jan 1, 1915 The age varied from the youngest of twenty months to the oldest of 65 years In 184 cases of the 198, or 92 per cent, the disease was reported as being arrested, in two there was some improvement, and up to the present time twelve patients have died Of these, six were said to have been relieved of all symptoms of active disease, dying from some intercurrent complication One, a child of 6 years, died the day following operation, probably from shock In this case mallet and chisel were used to remove the graft from the tibia Another patient died four days following operation from acidosis, one from status lymphaticus, and another died two years following operation from suppurative meningitis which was secondary to middle ear disease In this case necropsy showed a complete cure of the tuberculous spine Another patient died of pneumonia one week after operation Amyloid degeneration of the viscera and tuberculosis of the lungs each caused a death, and the remaining patient died of some acute abdominal condition

The report of 158 cases in which operation was performed by Dr Hibbs was furnished by Dr Benjamin Farrell[3] Of these, twenty-two patients were operated on during the year 1911, seventy-two during 1912 and sixty-four during 1913 They ranged in age from 18 months to 41 years The duration of the disease before operation varied from four weeks to thirteen years, and the range of deformity varied from three to fourteen vertebrae Of previous treatment, twelve had been wearing plaster-of-Paris jackets, ninety-two others had worn some other form of spinal support, and one had been on a Bradford frame Two had undergone bone transplants from the tibia, and four had previous osteoplastic operations, and in all six of these cases an insufficient number of vertebrae had been included in the operations

Twelve patients had psoas abscesses at the time of operation, forty-eight had psoas spasm and the reflexes were increased in forty There were three cases of paraplegia included in this series

Of the 158 patients, 144, or approximately 90 per cent, had an apparent arrest of the disease and were able to carry on their usual avocations of life, whether work or play, without apparatus one year after operation The three patients with paraplegia were still reported as being unable to walk Four other patients were operated on again, and seven died The causes of death in these seven cases were given as follows Three died of miliary tuberculosis, in two cases eighteen months after operation, and in the third twelve months after operation Three patients died of tuberculous meningitis, one six months, another sixteen months, and the third twenty-two months after operation, this patient having been infected before he was admitted to the hospital It should be noted that the cause of death was extrinsic in every case and apparently not due to the operation itself In the six cases referred to in which reoperation was necessary, the secondary operation was successful as in the other cases

SUMMARY

A summary of the report of the results obtained in the 642 operative cases shows that 538 patients, or 83 per cent, were benefited by the operation If we exclude the reports of Albee and Hibbs, we still have a report of 286 cases in which operations were performed by fourteen surgeons located throughout this country Of these 286 patients, 209, or 73 per cent, received benefit as a result of the operative treatment Of the entire series, nineteen cases were too recent to report, and six had been lost track of

Abscesses were present at the time of operation in twenty-eight cases, in seven of which improvement was reported after operation In only five instances was there postoperative development of abscess Paraplegia was present at the time of operation in thirteen cases, in seven of which there was improvement, but in two later a recurrence In the other six cases there was no postoperative improvement of the paraplegia to date Paraplegia developed after operation in three instances There were thirty deaths, or approximately 5 per cent mortality The disease in six of these cases was reported as having been arrested at time of death The causes of death were given as follows tuberculous meningitis in seven cases, pulmonary tuberculosis in three cases, miliary tuberculosis in five, pneumonia in one, septic meningitis in one, fat embolus in one, status lymphaticus in one, acidosis in one and pyemia in one case In the remaining cases the cause of death was not given In the tuberculous meningitis cases it is difficult to say whether or not the operation was a factor in the etiology In the seven meningitis cases, death followed operation in five weeks in one case, in six weeks in another and in the other cases three, four, six, sixteen and twenty-two months, respectively It is doubtful if the trauma occasioned by either of these operations was sufficient to cause a meningitis Even granted that this is possible, it is very doubtful if sufficient time elapsed in two of these instances at least for the development of the complication to such a point as to cause death, but in the other cases in which over three months elapsed, it is possible

That tuberculous meningitis is accompanied by miliary tuberculosis throughout the viscera in a large percentage of the cases, and that meningitis is very frequently caused by an extension of the miliary process to the meninges, has been proved by necropsy Unfortunately there was no necropsy report in any one of these cases, so a positive conclusion cannot be reached as to this point in these instances

Dr Ryerson reports the death from fat embolus He thinks the embolus had its origin in the tibia and advises the use of a tourniquet on the leg from which the graft is to be obtained, thus preventing a repetition of this complication

---

[3] Farrell, B P Hibbs' Osteoplastic Operation for Pott's Disease, The Journal A M A, Jan 3 1915, p 398

There were nine infections at the time of operation, seven instances of necrosis of the graft, or a portion of it, and in two cases there were small skin sloughs

Of the sixteen surgeons reporting, twelve considered postoperative support necessary and considered the operative procedure as a most valuable aid to the treatment of Pott's disease in selected cases Four considered the postoperative support unnecessary after the period of recumbency, accepting Dr Albee's idea that a certain amount of motion would stimulate and hasten the formation of ankylosis One surgeon reported uniformly unsatisfactory results, so far as the abbreviation of the period of treatment was concerned

CONCLUSIONS

This report of operative cases is intended to be only a preliminary report It was impossible to give a more detailed report because of the limited amount of information obtainable from the data gathered from the question blanks sent to the various surgeons As stated before, information only on the major points of interest was asked, and a special attempt was made to obtain the personal opinion of each contributor as to the value of the operative procedure used in the treatment of Pott's disease It is undoubtedly too early at this time to attempt a more detailed report of operative cases, as such a report should not be undertaken until there has been at least three years of postoperative observation Since twelve of the sixteen contributors continued supportive measures after operation, in these instances it is difficult to estimate just how much credit should be given the operation, and how much should be reserved for the support when it continues to be a phase of the postoperative treatment On the other hand, those surgeons deeming postoperative support unnecessary report as great or even a greater percentage of cases having the disease arrested, so in these instances, at least, we must place much of the credit to the operation

After a careful consideration of the facts obtained from various sources, it would seem that we might safely draw the following conclusions from this preliminary report

1 There can be no reasonable doubt that these operations, in a large percentage of the cases, abbreviate the treatment of tuberculosis of the spine by definitely hastening the curative ankylosis so necessary in this disease

2 By hastening ankylosis, the likelihood of an increase in the deformity is proportionately decreased, since deformity depends on destruction of osseous tissue, and this in turn depends to a large extent on the duration of the active disease process

3 These operations are undoubtedly best adapted to the treatment of Pott's disease that involves the cervicodorsal, dorsal, or dorsolumbar regions, since they are probably one of our best means at the present time of preventing the marked degree of deformity which develops in approximately 75 per cent of these cases, if treated only by the conservative method Ankylosis of several vertebrae in this region is not associated with any serious amount of limitation of motion if unattended by marked deformity On the other hand, as approximately 75 per cent of Pott's disease involving the cervical and lumbar regions develop but a slight degree of deformity when treated by external appliances, and since the development of ankylosis of several vertebrae by operation in either of these regions would be associated with marked restriction of motion in a majority of the cases, it would seem best not to be too hasty in advising operation in either of these regions This applies especially to children

4 It seems to be the general opinion of the majority of the contributors that the operations should be considered only as one phase of the treatment for Pott's disease, and that postoperative support should be continued until all signs of active disease have disappeared

321 East Forty-Second Street

THE ANATOMIC DISTRIBUTION OF CUTANEOUS NEOPLASMS *

F T VAN BEUREN, Jr, MD
NEW YORK

In determining clinically the variety of any new growth in the skin, a certain amount of consideration may properly be given to the known relative frequency and the known elective site of the different varieties of cutaneous neoplasms With this fact in mind, it has seemed worth while to note these points while collecting and classifying the skin tumors sent to the laboratory for examination During the past nine years there have been recorded histologic diagnoses on 352 tumors of the skin, which may be grouped as follows

Papillomas (including 3 corns and 3 cutaneous horns)			44
Epitheliomas	Papillary	3	122
	Basal cell	57	
	Squamous	62	
Pigmented moles			28
Melanocarcinoma			11
Carcinoma metastasis			1
Cyst, implantation			15
Cyst, dermoid			5
Cyst, sebaceous			18
Fibro-epithelial (composite) tumors			3
Keloids			9
Granuloma			7
Lipoma			5
Angioma			22
Fibroma			38
Sarcoma	Fibro	11	24
	Angio	2	
	Pure	11	
Total			352

Many of these specimens were sent to the laboratory merely to add to the collection, but the majority, perhaps, were sent with the idea of determining the character of the tumor, and it is interesting to note that 45 per cent of the whole number showed definite histologic evidence of malignancy

Epithelioma —An examination of the anatomic distribution of the epitheliomas shows that 24 were on the forehead, 21 on the cheek, 13 on the nose, 11 on the lip, 9 on the neck, 9 on the hand, 7 on the scalp, 7 on other parts of face or neck, and the rest scattering About 75 per cent, then, of the epitheliomas were located above the clavicle, and 84 per cent of all were on uncovered surfaces of the body

As between the squamous and the basal cell type, two striking differences appear with regard to their chosen sites For while epitheliomas of forehead scalp and cheek are quite evenly divided between the two types, all of those on the lip and nearly all of those on the neck (7-2) and hand (8-1) were squamous, but eleven out of the thirteen on the nose were basal cell. Among the other tumors, the total of each variety was so small and the location so diverse that it seemed sufficient to condense the many regions into four broad divisions of Head and Neck, Trunk, Upper Extremity and Lower Extremity.

---

* From the Laboratory of Surgical Pathology Columbia University

Papillomas.—The papillomas of this series stand next in number to, and have clinically been confused more often with, epitheliomas than have any of the other tumors.

Of 41 papillomas whose location was given, 20 were on the head and neck. Fourteen (10 of which occupied the hand) were from the upper extremity, 3 from the trunk, and three from the lower extremity — the location of choice was the hand (10). In other words, 49 per cent. were above the clavicles and 75 per cent. in all were on the unclothed surfaces of the body.

Fibromas.—The location of 35 fibromas was given as follows: 11 on the head and neck, 15 on the upper extremity, 2 on the trunk and 7 on the lower extremity. Thus only 31 per cent. were above the clavicle and 40 per cent. on unclothed surfaces.

Sarcoma.—The little series of sarcomas was still more evenly distributed, 5 sarcomas having been found on the head and neck (four of them on the forehead), 6 on the upper extremity, 3 on the trunk and 7 on the lower extremity; 24 per cent. were above the clavicles and 33 per cent. on unclothed surfaces.

Angioma.—The angiomas, on the other hand, show a decided preference for the upper portion of the body, 12 out of 22 coming from the head or neck and 7 from the upper extremity. Of these, 57 per cent. were above the clavicle and 81 per cent. on unclothed surfaces.

Pigmented Moles.—It is difficult to imagine pigmented moles being removed simply as such, and therefore I have grouped them with melanotic carcinomas with which they were most probably confused. Of these two varieties of tumors there were removed, in all, 13 from the head and neck (only one of which was carcinomatous), 5 from the upper extremity (of which, also, 1 was malignant), 8 from the trunk (of which 2 were malignant), and 7 from the lower extremity (5 of which proved to be melanocarcinomas). Four moles and 2 melanocarcinomas were from unknown locations. Only 11 per cent., then, of the melanocarcinomas whose sites were stated were located above the clavicles, and the same percentage were from unclothed surfaces. The far higher percentage of pigmented moles (54 per cent.) removed from unclothed surfaces suggested that some may possibly have been excised for cosmetic reasons.

On combining these results, it appears that, of malignant tumors, the epitheliomas alone show a distinct preference for the head and neck while the sarcomas and melanocarcinomas prefer the trunk and extremities, particularly the lower. Moreover, the epitheliomas are overwhelmingly in favor of unclothed surfaces of the body, while sarcomas and melanocarcinomas generally choose covered parts.

It is interesting to find also that the large majority of epiblastic type of tumors, irrespective of malignancy, occur on unclothed surfaces while those of doubtful or frankly mesoblastic type occur preponderatingly on the covered parts.

812 Park Avenue.

ARTIFICIAL PNEUMOTHORAX FOR PULMONARY HEMORRHAGE

John R. Littlefield, M.D., Cumberland, Md.

Man, aged 33, physician, with a large tuberculous cavity of the right lung, lost over a pint of blood, Oct. 7, 1915, but refused artificial pneumothorax. Ten c.c. of normal horse serum were given, and three-eighths grain of morphin. At 5 p. m. another hemorrhage occurred about as copious as the preceding one.

Horse serum and morphin were repeated October 8, at 3 p. m., there was a still more copious hemorrhage. Two injections of horse serum, 10 c.c. each were administered. At 11 p. m. another hemorrhage occurred, and it was thought that the patient could not survive. One-fourth grain of morphin and one-fiftieth grain of atropin sulphate were administered.

October 9 at 5 p. m. and again at 10:30 p. m., hemorrhages recurred. The patient was then persuaded to submit to an artificial pneumothorax.

A 2-inch needle was connected with the atomizer bulb of a blood-pressure apparatus. The skin was sterilized with tincture of iodin, and cocainized in the sixth interspace in the posterior axillary line. Before puncture, the skin was slid aside so that it would have somewhat of a valvelike effect in preventing the escape of air. Several thicknesses of gauze were placed over the air inlet valve of the atomizer bulb.

As the needle entered the skin, air pressure was made and continued until the patient showed the first signs of dyspnea, which required complete compression of the atomizer bulb seventeen times. The bleeding immediately ceased, and the patient stated that he was far more comfortable, as he had a feeling of support in that lung. Half an hour after compression, a soft clot half the size of a hen's egg was coughed up. For the next eighteen hours the sputum was blood streaked. The patient was admitted to the tuberculosis sanatorium October 25 and is growing stronger and bleeding has not returned. The singular part of his history is that he did not suspect tuberculosis until the first hemorrhage occurred.

SHORTENING OF THE SUSPENSORY LIGAMENT OF THE LIVER FOR PTOSIS BY THE "ROUND LIGAMENT" METHOD

Gaston Torrance, M.D., Birmingham, Ala.

In doing Rovsing's operation for visceral ptosis, it is often necessary to elevate the liver also.

It occurred to me, while operating in a case in which the liver was very low, that the suspensory ligament might be treated as the round ligament is done in shortening the uterine supports.

A long curved forceps is pushed through the posterior layer of fascia just below the tip of the ensiform cartilage, the suspensory ligament is caught and pulled back through this small opening, and drawn down tight enough to bring the liver up snugly against the diaphragm, and is sutured to the fascia and muscles.

In a series of sixteen cases in which I have done Rovsing's operation, modified, I have done the "round ligament" operation four times, with most excellent results.

In one case in which the left lobe was very long, I passed sutures through the liver and attached it to the diaphragm also.

Cruelty and Research.—The experimenter, even if he were really cruel, would usually defeat his own ends by the infliction of pain (*a*) because the pain impulses would cause disturbance of the normal functions which he seeks to discover, and (*b*) because the struggles of a suffering animal would disturb the adjustment of apparatus and prevent the desired observation. It is the total ignorance of the real situation that causes so much emphasis to be laid on this point by the opponents of research.—Samuel S. Maxwell, *Science*.

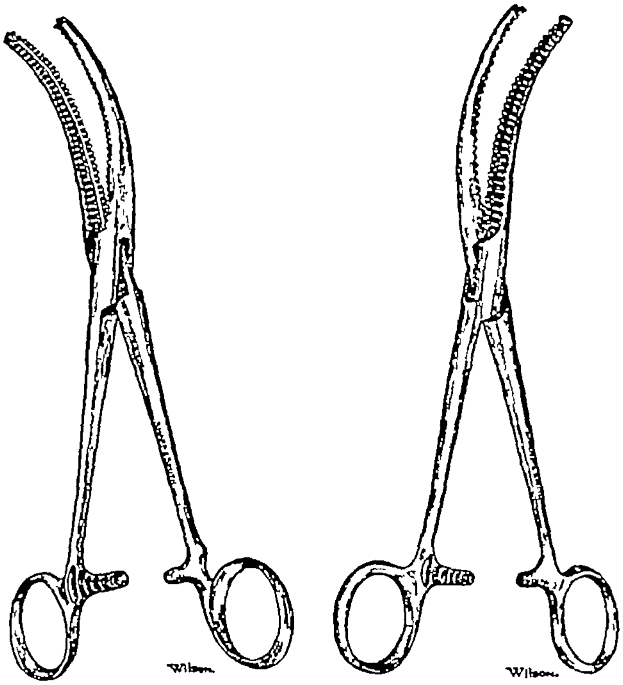
New Instruments and Suggestions

A USEFUL HYSTERECTOMY CLAMP

Maurice J Gelpi, A B, M D, New Orleans

The clamp illustrated here was designed for the special purpose of preventing the possibility of slipping of an inaccessible pedicle, which is likely to retract beyond the reach of the operator It offers distinct advantages in dealing with such a pedicle in the course of vaginal or abdominal hysterectomy, or nephrectomy

The clamp combines several of the distinctive features of other clamps in common use It has the durable "box" lock, the curve of the Pean, the tip of the Kocher, and in addition to the usual transverse teeth there is a single longitudinal ridge, fitting into a corresponding groove in the opposite blade The combination of these features affords almost perfect security against slipping, even though the pedicle is quite thick and under considerable tension The cuts show clearly the details of both blades as well as other points in construction, so that no further description seems necessary



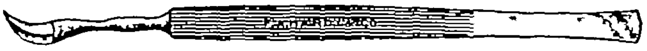
Hysterectomy clamp showing construction of clamping surfaces of blades

Audubon Building

A NEW TONSIL KNIFE

H V Dutrow, M D, Dayton, Ohio

This knife was worked out by Dr D F Reeder of Ancon Hospital, Canal Zone, and myself, during our term of service with the United States government in the eye ear, nose and throat department of that institution The desire for such an instrument came about at the time that might well be termed the evolution in tonsil surgery, namely the substitution of tonsillectomy for tonsillotomy We were more than 2000 miles from medical centers, and had read of Dr Ballenger s sharp dissection method with scalpels and various other methods of complete enucleation A Ballenger s knife was procured but was not entirely satisfactory in that we felt the need of a concave cutting edge more than a convex hence the double edged knife as shown in the accompanying illustration With this instrument it is possible to remove completely by sharp dissection every type of tonsil that we encounter It is especially serviceable in delivering from its bed a completely submerged tonsil by dissecting back the mucous membrane and pillars overlying the tonsil, thereby preserving every vestige of mucous membrane, which is so valuable in covering the fossa and reducing the amount of scar tissue The knife is especially valuable when used in conjunction with the snare I very rarely, if ever, do a tonsillectomy by dissection alone. After the mucous membrane and pillars have been separated and the upper lobe of the tonsil freed from its fossa, the snare wire is thrown around the pedicle, and the enucleation completed It is also possible with this knife to do all the separation necessary without the use of any other knives or blunt dissectors The end of the handle is constructed in such a way that it may be used when the stripping back of the mucous membrane and pillars is desired or any blunt separation is required If in any case the operator desires not to use the convex edge of the knife, and if he strikes the patient's lip or palate, cutting them, he may dull this edge or grind it down to avoid this unpleasant feature, using only the concave edge for his operative procedure



The Reeder Dutrow tonsil knife.

The laryngologists of today are about equally divided as to sharp versus blunt dissection This knife belongs decidedly to that class of men favoring sharp dissection With it one is enabled to cut the tissues without mauling and tearing them as is the case with blunt dissection Sharp dissection places the operation of tonsillectomy strictly within the class of distinctly surgical operations with clean-cut dissection, thereby preserving the integrity of the parts and a consequent shorter period of convalescence In removing the left tonsil I prefer to stand on the patient's right, and change position to the other side in removing the right tonsil

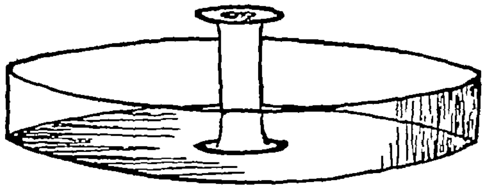
922 Reibold Building

STAINING DISH FOR COVER GLASS PREPARATIONS

F Macbeth Ende, M D, New York

This simple device is easily made by fixing an ordinary glass ligature spool to the center of a Petri dish The ordinary cover glass forceps the jaws of which are usually covered with a film of old dry stain, frequently spoil results by precipitation, leaving a granular residue at one corner of the cover glass, the excess running down the arm Dishes while doing away with this and other disadvantages, require a large amount of stain

In making this dish a few chips of sealing wax are placed in the center of the Petri dish, and it is held over an alcohol flame until the glass is heated and the wax melts A ligature spool the end of which is about 1 cm in diameter, previously heated to prevent breaking is pressed into the molten wax which is allowed to harden If a few drops of water are placed on the top of the spool a cover glass is held firmly from slipping or tipping when the stain is dropped on Dilution and washing can be done the excess flowing into the dish To minimize the action of the alcohol or ether on the wax, a small amount of water is placed in the dish to dilute it as it overflows



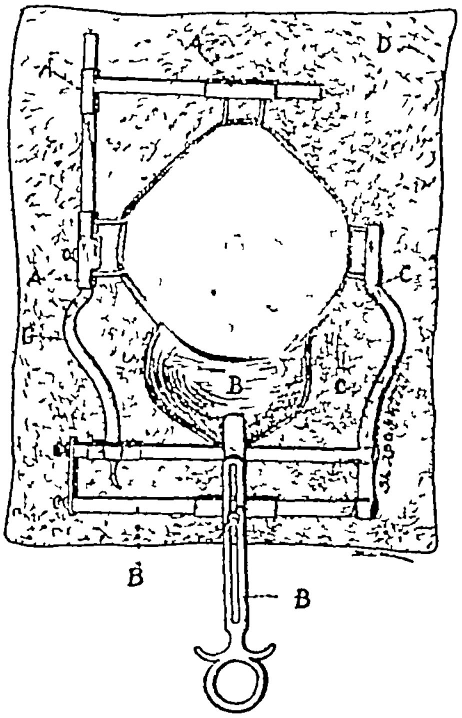
Staining dish for cover glass preparations.

302 West Eighty-Seventh Street

AN ATTACHMENT FOR THE BALFOUR-GOSSET, MAYO-SIMPSON AND OTHER ABDOMINAL RETRACTORS

J Rawson Pennington, M D, Chicago

"A" in the accompanying figure is an adjustable arm and blade, which I have had made for the Balfour-Gosset, Mayo-Simpson and other retractors



Attachment for the Balfour Gosset Mayo Simpson and other abdominal retractors

"D" is a rubber laparotomy sheet with a sleeve, and is similar to all other rubber laparotomy sheets This sheet with its sleeve extending into the abdominal cavity is placed over the incision The blades of the instrument are then passed through the sleeve and the instrument opened exposing the cavity "E"

Advantages This combination of retractor and rubber sheet equalizes the pressure on the incision and aids in controlling hemorrhage It prevents contamination of the operator's gloves by the patient's skin It protects the edges of the wound, traumatizes the tissues less than the ordinary hand retractor, lessens the danger of infection, facilitates primary union, gives better view and control of the field of operation and supplants one assistant

31 North State Street.

COCAIN ANESTHESIA FOR SUBMUCOUS RESECTION OF NASAL SEPTUM

A M Painter, M D, Youngstown, Ohio

While cocain intoxication in this operation is usually limited to loquacity and slight mental exhilaration, in some rare cases disagreeable hysterical symptoms, extreme nervousness, crying, restless movements and even hysterical transient paralysis occur and render the limiting of the amount of the drug used desirable.

The application of cocain over the entire operative field in the form of a mud of cocain and epinephrin, as advised by Freer, makes an intense insensibility possible with the use of much less cocain than when the usual 10 per cent solution is employed I have found, however, that even less of the drug, merely a minimal amount, will produce profound local anesthesia if the cocain mud be applied directly over the nerve trunks supplying the septum at their entrance on the septum, where they are quite superficial The most important of these nerves is the septal branch of the anterior ethmoidal nerve, which is found about opposite the anterior end of the middle turbinated body where it descends from the cribriform plate over the septum To this place the cocain mud is applied on a cotton applicator, the mud being carried as high up on the septum as possible, to reach the nerve trunk near the cribriform plate The second nerve trunk to be reached is the nasopalatine nerve, which descends over the septum about along the anterior border of the vomer The anesthesia is complete in about three minutes, and will last during quite lengthy operative procedures To perfect ischemia the epinephrin is then applied to the site of the incision only

Therapeutics

EPILEPSY

Epileptic fits caused by traumatism, by cerebral congestion and inflammation, by uremic or other poisoning, by tumors, and by degenerated cerebral arteries do not constitute the disease of epilepsy True epilepsy, sometimes called idiopathic (a word now so much restricted as to have almost reached the vanishing point) epilepsy, has as yet shown no real pathology The hereditary factor has recently been studied by Thom[1] He found that 126 cases of 157 investigated showed direct heredity, namely, the parents or grandparents had had epilepsy He also found that there were 293 hereditary defects in the 157 cases, sometimes a member of a family having more than one defect Epilepsy was associated with alcoholism in 38 per cent of the cases, with insanity in 27 per cent of the cases, and feeblemindedness in 10 per cent of the cases

Aside from the hereditary tendency, the etiology of true epilepsy is still unproved However, lately several papers have appeared which seem to show that there are possibly several causes of true epilepsy, among which is intestinal stasis and consequent absorption of the toxins It has long been recognized that an epileptic patient must have free bowel movements, and should generally have his protein food reduced in amount, and frequently have all meat withheld, if his fits are to be reduced in frequency and in intensity, but Reed[2] claims that epilepsy may apparently be stopped by proper surgical treatment of intestinal stasis

Reed became interested in the subject of the treatment of true epilepsy by needed abdominal operations, because almost all epileptics are constipated, and because when their constipation has been cured he found many patients ceased to have epileptic attacks He also found that replacement and fixation of a ptosed colon by his "retroperitoneal implantation method" cured persons with epilepsy[3] He also has cured epilepsy by colectomy He learned, by his abdominal findings, operative interference and consequent results, that "a ptosic condition of the mesocolon, whether affected by the weight of the loaded colon or by that of a fat omentum or by both, could produce obstructive angulation of the duodenum, and second, that the specific poison of epilepsy, whatever its character, was elaborated in the duodenum" He decided that it was wise to do colectomy at two stages, at first doing an "ileosigmoidostomy or short-circuit procedure" and later, at a considerable interval, to remove the colon After the first operation he finds there is always a relief of constipation and a lessening of the epileptic attacks Later, in some instances, which he explains by the poison-carrying, small intestine contents reaching the inactive colon, there occur severe convulsive attacks which render necessary the elimination of this useless colon

Contrary to the investigation of Thom,[1] Reed found that his cases of epilepsy with intestinal stasis did not show heredity The symptoms in his patients seem to show distinctly the absorption of intestinal toxins There is lassitude, mental depression, dizziness, symptoms of what may be termed biliousness, often high blood tension, and always a constant tendency to the formation of intestinal gas of very offensive odor

---

[1] Thom Boston Med and Surg Jour, Sept 23 1915

[2] Reed, C A L The Probable Cause and Logical Treatment of Epilepsy, The Journal A M A, March 27 1915 p 1047

[3] Reed, C A L Fixation of the Ptosic Stomach and Colon by Retroperitoneal Implantation, The Journal A M A, March 28, 1914 p 999

Certainly, Reed's claim that he has succeeded in diminishing the number of epileptic attacks and in curing many cases by abdominal operations to relieve intestinal stasis must make an impression on clinicians The necessity for the prevention of constipation, and often for the withholding of meat proteins, and a possible operative interference, in suitable cases, should be considered Whether or not the results would be as satisfactory in patients who have apparently inherited the tendency to epilepsy must be decided later

The intestinal origin of some cases of epilepsy has recently been emphasized by the investigations of Cornwall[4] He finds that Roentgen examinations in epileptic cases will often show colon displacements, and medical or physical treatments aimed at relieving constipation will diminish the epileptic attacks Of course, in these conditions of ptosis, constipation may be prevented by abdominal supports, but the ptosis can be cured only by operative interference

Another point of view of the origin of many cases of true epilepsy has been presented by L Pierce Clark[5] after years of study of this disease Clark believes that true epilepsy is a psychosis, and that each case should be studied with that idea in mind He finds that the analysis of disturbing dreams and then tracing these dreams back to childhood, with the patient's aid, may show a distinct cause first for the fear, then for the dreams, then for the dread, then for the temper and moroseness, and finally for the fit Many of the fits he finds to be due to an unanalyzed sexual desire, others to a distinct desire to get near to the mother for protection against some imaginary danger, that is, during the attack there is a distinct return, whatever the age, to infantile desires and fears

This conception of the cause of the disease of epilepsy is novel and may not be generally accepted by clinicians, but Clark's studies certainly show that this disease must be analyzed much more carefully than it has been, and from the psychic standpoint Psychic analysis is advancing so rapidly as to have far outstretched the understanding of most of us, but by such expert analysis many obscure conditions have been clarified

Clark says that while bromids will slow up and often stop, temporarily at least, epileptic convulsions by stupefying the nervous centers ("the sensorimotor portion of the cortex"), after they have been pushed for a time the pent up, unexploded desires may burst forth again in a series of explosions or fits Also, neurologists assert that bromids interfere with their study of the fits and the cause of the fits

Bromids surely damage the brain, the cord, the muscles and the general nutrition, hence we record a failure when we give bromids for a long time in epilepsy A patient who has long taken bromids requires many months to eliminate them completely from his system

A study of Clark's thesis presents the following practical conclusions

1 Abnormal fear timidity, undue adherence to one individual (generally the mother), attacks of temper, violent crying, more or less constant disagreeableness, more or less constant misbehavior, and all forms of hysteria should be studied as psychoses that may lead to epilepsy

2 Fits should be studied from every standpoint, and if no tangible cause can be discovered, they should be considered to be epilepsy

3 The epileptic should be removed from mental strain (too much school), should be given a country life if possible, should be allowed no tea, coffee or other cerebral stimulants, should be given a minimum amount of animal protein, should be given alkalies, as lime (the parathyroids may not infrequently furnish an abnormal secretion, though this is not mentioned by Clark), and sodium bicarbonate or potassium citrate The bowels should move freely, daily There should be daily warm baths, and the physical exercise should be sufficient for the age and temperament

4 If this regimen does not stop the fits, then a careful psychic analysis should be started The whole previous life should be studied through the patient, mother, nurse and other members of the family Dreams, desires, fears, sexual tendencies, the epileptic cry, the character of the convulsions, etc, must all be analyzed Even the particular way the head turns, or which arm begins to twitch first may all be found to have a tangible infantile or childhood cause, and may not at all mean a cerebral localization, as once thought

5 If the physician in charge of an epileptic is not skilled in psychic analysis, the patient should be sent to an up-to-date institution for study and treatment This also is frequently advisable for home reasons

6 Bromids and other sedatives should be given only temporarily, and then with regret They may be useful for a time, but they cannot cure epilepsy, and they are responsible for a great deal of serious harm and even permanent injury

Another point of view as to the cause of some cases of epilepsy is related to the fact, long presented by some physicians, that there can be all grades of hypersecretion and hyposecretion of the thyroid gland Logically all of the internal secreting glands may present the same long range of variations in their secretions, and these variations may cause varying kinds of disturbances as yet but little understood and often ascribed to hysteric, neurotic, toxic, or other vague cause In this connection the work of McKennan, Johnston, and Henniger[6] on epilepsy should be described

These physicians examined, by Roentgen ray photographs, the skulls of 115 epileptics, and found bony changes in the region of the sella turcica in 80 per cent of these cases, while in a number of nonepileptics bony changes were found in only 10 per cent — a striking difference Some skulls showed pituitary enlargement or tumors, some thickening of the clinoid processes alone, others thickening of the bones of the anterior fossa of the base of the skull as well as thickening of the clinoid processes, and some also showed thickening of the body of the sphenoid bone In twenty of the above 115 cases no bone disturbance was found, but ten of these were cerebral cases, three of which showed internal hydrocephalus, while in two cases the radiograms were taken very soon after the epileptic attacks had first developed

---

[4] Cornwall Arch Diagnosis July 1915

[5] Clark L P New York Med Jour 1915 ci 385 442 515 567 623

[6] Pennsylvania Med Jour March 1915 p 429

These findings are remarkable, and may show by future corroborative evidence that there is frequently disturbance in the sella turcica region in true epilepsy.

The average age of the patients examined was 23 years. The authors found no history of evidence of inflammatory cause for the bone thickening, and believe that it must be due to a disturbance of the pituitary gland. As hypertrophy of this gland has not been generally found in postmortems in epileptics, they conclude that the disturbance is hyposecretion of the posterior lobe of the pituitary due to a disturbed venous blood flow causing a passive congestion. They think the disturbance of the pituitary would account for the local increase in bone growth, and that a general acromegaly is not caused because the whole pituitary gland is not sufficiently involved. As in all cases of hyposecretion of the posterior lobe of the pituitary, they found there was an increased carbohydrate tolerance in all of the cases studied for this symptom, namely, in fourteen of their epileptic patients. Hence these physicians conclude "that so-called idiopathic or essential epilepsy is due to a mechanical injury of the pituitary gland." They did not find that feeding pituitary posterior lobe substance was of any benefit in controlling the epilepsy.

It has frequently been noted that epileptic attacks may occur in women at the time of the menopause, or in girls and young women when there is amenorrhea or delayed menstruation. The cause has been thought to be due to an intoxication caused by the changed metabolism, due either to insufficient elimination of nitrogenous waste products by menstruation, or due to a relative insufficiency of the thyroid gland at these times, and the thyroid is known to have detoxicating power. This inference has been borne out in many instances by thyroid feeding diminishing the number of epileptic attacks, and even curing some cases. It is possible in this polyglandular disturbance of ovaries, corpora lutea and thyroid that the pituitary gland becomes involved, and its disturbance may cause the epileptic attacks.

TREATMENT

It is evident that the treatment of the epileptic cannot be successful unless the etiologic factor in the individual case is determined and eradicated if possible. A study of all possible cerebral causes should be made, including roentgenograms of the skull taken in various positions. If the history of the case or the roentgenograms show that operations on the cranium are likely to be of value, expert cerebral surgery should be done.

Roentgenograms should be taken of the intestine after bismuth feeding. Finally, the patient should be studied psychically. The hereditary factor, the intestinal factor and the psychic factor have just been described. The greater the hereditary tendency to the disease, probably the worse generally is the prognosis of entire recovery. Permanent incurable lesions in the brain or meninges make the prognosis bad. The importance of intestinal stasis causing absorption of toxins and the curability of such stasis medicinally, mechanically or operatively has been emphasized. The necessity of psychic study and psychic treatment of epileptics has also been emphasized.

The importance of epileptic colonies and public institutions for the study and care of epileptics is now being recognized, and has already been inaugurated by a number of states. The importance of good, clean air, of outdoor work, or of indoor work under the best hygienic surroundings, has been shown to be very important for the epileptic, and will diminish the number of his attacks. It is also well known that such patients as are not idiotic will care for each other during an epileptic attack, therefore the nursing care of these patients in detention colonies is not great.

Constipation must be prevented, and the diet should be such as to cause the least possible production of toxins in the intestine. Generally, the lower the meat diet, the better for the patient, and all foods that contain large amounts of nuclein bodies, such as sweetbreads, liver, shad roe, etc., should be tabooed. Milk, eggs, fresh fish, peas, beans, vegetables, cereals and fruits make the best food for the epileptic. It is wise, when there is an opportunity, to individualize a patient's diet by ascertaining, under the different foods, the character of the digestion by examining the twenty-four hours' urine and the twenty-four hours' feces, but in public institutions where a large number of epileptics are handled, such examinations are almost impossible. The determination of the amount of indican in the urine, however, is indicative of the amount of intestinal indigestion, and indican in the urine in any amount should cause a change of diet and the administration of foods or drugs that will cause more profuse movements of the bowels.

Lastly, drugs must in many instances be given to the epileptic, and the most valuable are the bromids. It probably is not often true that a combination of several bromids acts better than one bromid. The main point to remember, as so well emphasized by Clark, is that bromids may do a great deal of harm as well as a great deal of good. Sodium bromid can probably be taken longer without causing harm than can potassium bromid. There is no possible advantage of strontium bromid over sodium and potassium bromid; it is more expensive, but is absorbed less rapidly, and more of it is probably lost in the intestinal canal. This has caused the belief that strontium bromid causes less unpleasant symptoms than either sodium or potassium bromid. However, dose for dose, less strontium bromid is active than sodium bromid or potassium bromid. If the dose of either of the last two is reduced, the unpleasant symptoms will be no more in evidence than with strontium bromid. Ammonium bromid is intensely disagreeable to take, and has no advantage over the sodium and potassium bromid. The other bromids are not worth mentioning. Calcium bromid and zinc bromid should be dropped from the pharmacopeia as entirely unnecessary drugs.

The enormous doses of bromids given not only do harm, but also are entirely unnecessary, and it is probably a fact, the same as is true of enormous doses of iodids, that only a certain amount will be absorbed and circulate in the blood, the large residue of enormous doses of salts passes out of the system unutilized. It has also been well proved that if sodium chlorid is partially or entirely removed from the diet, smaller doses of bromid are effective, because they are absorbed more readily and act when there are less salts in the system. The smaller the dose of bromid that will cause a diminution in the number of epileptic attacks, the less is the nutrition of the body disturbed, the less are the internal secreting glands disturbed, the less are the blood-forming organs disturbed, the less is the skin irritated by the bromid, and consequently the less are eruptions likely to occur, and the less is the kidney disturbed by not being compelled to excrete large amounts of salts

It should once more be emphasized that the administration of bromids will probably always reduce the frequency of the attacks, and in some instances may apparently cure epilepsy, but this symptomatic treatment is always to be regretted In some cases due to nervous irritability and attacks due to some nervous reflex, bromids may be curative, but the future of long bromid treatment means mental and physical deterioration

If the patient is in a condition of status epilepticus, large doses of chloral may be immediately needed, and under certain conditions morphin must be injected If the convulsions are very severe, inhalations of chloroform are necessary Hypodermic injections of scopolamin hydrobromid may be of value Such a condition is an acute illness and must be treated as any other acute disease by such measures as are deemed necessary Prolonged hot baths and free catharsis may relieve the intense cerebral irritation of these patients Also large amounts of water should be drunk to eliminate if possible the irritants in the blood It is possible that venesection followed by a saline transfusion might be of value in relieving the brain of the toxins that are causing such a condition as that of status epilepticus

The importance of the subject of epilepsy is shown by Graves,[7] ex-president of the National Association for the Study of Epilepsy when he states that by conservative estimate there is one epileptic for each 400 of the population of the United States and Canada, and that there are 250 000 epileptics among our 100,000,000 of population He stated that in special colonies for epileptics only 7,000 could be cared for while perhaps 125,000 of these epileptics need such colonization treatment

It is very important that the general practitioner should recognize that an epileptic patient is perhaps not incurable that he generally is not feebleminded, although he may become so, that he deserves to be studied and treated scientifically, and that the reward will not infrequently be a cured patient and a happy family This is not to urge the patient or his family to believe that, even if cured, he can assume any walk of life that carries with it hard mental work, responsibility or anxiety Such a cured patient should, also, not be compelled to do very laborious work The lifework selected should be as agreeable to the patient as possible, and should not be strenuous, either mentally or physically

---

[7] Graves Ill Med Jour October 1914 p 373

Better Control of Communicable Diseases—A plan for securing better control of measles whooping cough scarlet fever and typhoid fever is being put into operation by Dr F M Meader director of the Division of Communicable Diseases of the New York State Department of Health As soon as the cases and deaths are compiled for the previous month the case rate and the fatality rate are worked out for each county Where the case rate is high a circular letter will be sent to all physicians of that county notifying them of the unusual prevalence of the disease and offering the facilities of the laboratory for obtaining diagnosis in obscure cases If the case fatality rate is high it is assumed that the cases have not been reported, and the attention of the physician is called to the fact that the law requires that all cases even suspicious ones, must be reported to the local health authorities

New and Nonofficial Remedies

The following additional articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association Their acceptance has been based largely on evidence supplied by the manufacturer or his agent and in part on investigation made by or under the direction of the Council Criticisms and corrections are asked for to aid in the revision of the matter before publication in the book "New and Nonofficial Remedies"

The Council desires physicians to understand that the acceptance of an article does not necessarily mean a recommendation, but that, so far as known, it complies with the rules adopted by the Council

W A Puckner, Secretary

DIONIN (See N N R, 1915, p 209)—The following dosage forms have been accepted

Dionin Tablets ¼ gr—Each tablet contains dionin ¼ grain Prepared by E Merck Darmstadt Germany (Merck and Co New York)

Dionin Tablets 1 gr—Each tablet contains dionin 1 grain Prepared by E Merck Darmstadt Germany (Merck and Co, New York)

ACET-THEOPHYLLIN SODIUM (See N N R, 1915 p 375)—The following dosage form has been accepted

Theophyllin Sodium Acetate Tablets 0 15 Gm—Each tablet contains theophyllin sodium acetate 0 15 Gm Prepared by C F Boehringer & Soehne Waldhof Mannheim, Germany (Merck and Co New York)

TRIPHENIN (See N N R, 1915, p 242)—The following dosage form has been accepted

Triphenin Tablets 5 gr—Each tablet contains triphenin 5 grains Prepared by E Merck Darmstadt, Germany (Merck and Co New York)

TROPACOCAINE HYDROCHLORIDE (See N N R 1915, p 38)—The following dosage form has been accepted

Tubes Tropacocaine Hydrochloride Sterilized 1 gr—Each tube contains tropacocaine hydrochloride 1 grain Prepared by E Merck Darmstadt Germany (Merck and Co, New York)

VERONAL-SODIUM (See N N R, 1915, p 93)—The following dosage form has been accepted

Veronal Sodium Tablets 5 gr—Each tablet contains veronal sodium 5 grains Prepared by E Merck, Darmstadt Germany (Merck and Co New York)

IODIPIN (See N N R, 1915, p 160)—The following dosage form has been accepted

Iodipin Tablets 3 min—Each tablet contains iodipin 3 minims. Prepared by E Merck Darmstadt Germany (Merck and Co New York)

APIOL-MERCK.—A non-proprietary brand complying with the standards for apiol (See N N R, 1915, p 226)

Manufactured by E Merck Darmstadt, Germany (Merck and Co, New York)

CREOSOTE CARBONATE-MERCK—A non-proprietary brand complying with the standards for creosote carbonate (See N N R, 1915 p 84)

Manufactured by E Merck, Darmstadt, Germany (Merck and Co New York)

PHENOLPHTHALEIN-MERCK — A non-proprietary brand complying with the standards for phenolphthalein (See N N R, 1915, p 244)

Manufactured by E Merck Darmstadt Germany (Merck and Co New York)

QUININE TANNATE-MERCK — A non-proprietary brand complying with the standards for quinine tannate

Manufactured by E Merck Darmstadt, Germany (Merck and Co, New York)

SODIUM NUCLEINATE-MERCK —A non-proprietary brand complying with the standards for sodium nucleate. (See N N R 1915 p 215)

Manufactured by E Merck Darmstadt Germany (Merck and Co New York)

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION

535 North Dearborn Street Chicago, Ill

Cable Address . "Medic, Chicago

Subscription price . . . . Five dollars per annum in advance

Contributors, subscribers and readers will find important information on the second advertising page following the reading matter

SATURDAY, JANUARY 8, 1916

AT WHAT TIME OF LIFE DOES TUBERCULOUS INFECTION OCCUR?

The fundamental importance of infection during childhood for pulmonary tuberculosis in adults seems to be more and more generally supported by those who have especially to do with large clinical studies of the disease Repeated demonstration of the well-nigh constant presence of healed or latent tuberculous lesions in nontuberculous adults, the evidence of the tuberculin reaction as to the high percentage of infections in childhood, and the observations of experimental pathology that the anatomic peculiarities of human pulmonary phthisis depend on the fact that the disease is developing in a subject already partially immunized to the disease, all have given support to the view advanced especially by von Behring that primary tuberculous infection occurs usually in children and rarely in adults

From the clinical side, evidence both in support and in opposition to this concept has been advanced, the disagreements being understandable in view of the difficulty of securing accurate information from the histories of so chronic and insidious a disease as tuberculosis On the whole, however, the evidence seems to be largely in favor of the principle stated A particularly interesting clinical study of the effect of exposure in childhood on the occurrence of tuberculosis in adults has been reported recently by Wallgren[1] from the pulmonary clinic at Upsala This investigation consisted of a comparison of 100 consumptives and 100 healthy persons as to their exposure during childhood to obvious opportunities for infection from tuberculous associates Such a study is to be considered quite apart from the numberless investigations of the incidence of familial tuberculosis in tuberculous patients, for in the latter studies there is no consideration as to whether the tuberculous relatives were in contact with the patient, whether their tuberculous lesions were opened or closed, or whether the contact was in childhood or later, furthermore, not a little of the dangerous exposure comes from sources outside the family, as nurse maids, servants and schoolmates

Wallgren considers only cases in which it can be shown definitely that during childhood the patient was in intimate contact with some one coughing from chronic pulmonary disease, which in all probability was pulmonary or laryngeal tuberculosis As far as possible, nontuberculous disease was excluded The subjects were about equally divided as to sex Of the hundred tuberculous patients, fifty-one gave evidence of childhood contact with tuberculous associates, whereas of the hundred normal individuals, such contact was found in but thirteen Allowing for the usual unavoidable errors of statistical studies based on clinical histories, the disparity here seems to be far too great to be merely fortuitous, and must be considered as strong evidence for the importance of childhood infection The statement of Pollak that the earlier the infection the more serious the outcome also receives support from Wallgren's statistics, for of the fifty-one consumptives, fifteen had been exposed during the first five years of life, whereas, of the thirteen healthy persons who gave a history of exposure, in but one case had that exposure been before the sixth year While statistical studies of this sort are extremely difficult and time-consuming, if conducted with enough care and controls to be worthy of consideration, their value in the vital problem of the control of tuberculosis is so great as to make them well worth the effort of those who have access to suitable material, and it is to be hoped that larger series of statistics on this topic will soon be forthcoming to settle definitely this fundamentally important question

THE CAMPAIGN AGAINST TUBERCULOSIS

Among the various phases of the public health movement in this country of the last decade or two, the effort toward the gradual eradication of tuberculosis stands out prominently in its comprehensive planning and organization The field that, ten years ago, was almost barren of any organized machinery for the control of the disease, includes at present 1,200 local antituberculosis organizations, 575 hospitals and sanatoriums, 450 special dispensaries, 1,000 dispensary physicians, 4,000 nurses and 400 open air schools The total cost of creating and operating this machinery represents an outlay of over $100,000,000 of public and private funds

The results so far achieved are shown in (1) the steadily growing enlightenment of the people on the subject of tuberculosis, its cause, methods of prevention and treatment, (2) the gradually falling mortality from the disease (in the registration area[1] in 1902, the rate was 16 3 per 10,000, in 1911, 13 2), and (3) the impetus given to the entire public health movement through concentration of public attention on a disease, the gradual eradication of which, by virtue of its etiology, is dependent on the realization of higher general health standards The present lower mortality marks the effect of the intensive educational campaign, of the steadily expanding system of institutional and home control of the disease, and of the general improvement in the sanitary and economic conditions of the people Tuberculosis, however, is still with us, with its appalling, though reduced mortality, and with some of the fundamental problems in its etiology still awaiting solution

---

[1] Wallgren Beitr z Klin Tuberk, 1915, xxxiv, 173

[1] Hoffman, Frederick L The Decline in the Tuberculosis Death Rate, 1871 to 1912 Ninth Annual Report National Association for the Study and Prevention of Tuberculosis

During the last ten years a gradual change has been taking place in the conception of the relative importance of the various causative factors in the present prevalence of the disease, and it is becoming apparent that further clinical, laboratory and sociologic investigations are likely to result in considerable modification or amplification of the methods directed at present toward its control For instance, the grave etiologic importance of massive infection, through prolonged close contact with "open" cases of tuberculosis, particularly in crowded, unhygienic surroundings, has been well ascertained, through statistical, clinical and laboratory study The question of the relative importance of "chance" infection, through infected dust, in public streets or places, or through casual contact with a consumptive, is still, however, in need of further elucidation The growing incidence of tuberculous infection in children, with each successive year of the child's life, has been established by postmortems and, in recent years, by the greater frequency of tuberculin reactions with the advance of age The relation of these implantations in childhood to the development of "adult" tuberculosis has been brought forward by von Behring, Baldwin and others The character of the relationship or the modus operandi are still, however, in the realm of unsolved problems Closely interwoven with this question is the partially solved problem of immunity in tuberculosis in its various theoretical and practical aspects

The comprehensive system for the control and gradual eradication of tuberculosis, in the process of formulation at present, is built on facts ascertained chiefly in the last three decades of investigation and experience Based on our present knowledge, Surgeon F C Smith,[2] of the U S Public Health Service, emphasizes chiefly the following important aspects of a campaign against tuberculosis (1) control of sources of "gross" infection by hospitalization of advanced cases, particularly of those in contact with children, removal from tuberculous surroundings of children under 2 years, preferably under 4, and as much later as possible, and creation of special institutional provisions for such children (2) earlier diagnosis of the disease, rendered possible by the universal application of the principle of periodic physical examinations of children and adults, and a system of industrial insurance permitting the worker to take cognizance of incipient symptoms of disease, (3) reduction in the prevalence of all those diseases which create a predisposition to tuberculosis, and (4) further improvement of industrial sanitation, with removal from industries of conditions causing undue "stress and depletion "

Because of its great prevalence and its baneful effects on the general health standards of this country, tuberculosis must be combated with the active participation of every available agency The services of the federal government should be utilized particularly to establish a national effort against this disease While the outline of Smith in its entirety is perhaps difficult of attainment, especially with relation to its immediate utilization as a plan of campaign, certainly if put into effect it would tend to decrease greatly the number of new infections through the propagation from old cases

THE ALLEGED SECRETORY NERVES OF THE THYROIDS

To the physiologist there is always a strong temptation to postulate secretory, trophic or regulatory nerves as the direct controlling factors in the functioning of the various organs of the body A little careful analysis usually shows, however, that variations in the blood supply are of themselves often sufficient to account for changes of function without the necessity of assuming any direct or specific nervous effects on the active cells involved Thus it is a familiar fact that the kidney is sensitive and promptly responsive to alterations in the vascular conditions in that organ Again, recognized chemical substances circulating in the blood may become stimulants or depressants to glandular activity independent of any specific nervous influence All of these possibilities tend to make it difficult in some cases to decide whether one is dealing with vasomotor nerve sensory nerve or hormone effects in certain organs

Lately there has been renewed activity in the attempts to interpret the mechanism of thyroid function Here there is an added difficulty in the fact that no characteristic physiologic response reveals itself in the form of easily measured phenomena like blood-pressure changes or the flow of some external secretion Inasmuch as the iodin in the thyroid has currently been associated with its function, it has become customary to estimate the iodin content and draw conclusions regarding changes in the activity of the gland from variations in this element On this basis Rahe, Rogers, Fawcett and Beebe[1] believed that they could demonstrate the presence of secretory nerves to the thyroid because an unquestioned effect of stimulation was noted on the iodin content

---

[2] Smith F C The Epidemiology of Tuberculosis The Journal A M A this issue p 77

[1] Rahe, Rogers Fawcett and Beebe Am Jour Physiol 1914 xxxiv 72 The Nerve Control of the Thyroid Gland editorial The Journal A M A July 25 1914 p 32

Watts[2] has properly pointed out that such data cannot be construed as proving the presence of true secretory nerves until it is shown that the vasomotor changes in the thyroid induced by stimulation of the thyroid nerves are not by themselves capable of inducing the changes in the content of iodin In experiments which he has conducted in the Hull Physiological Laboratory at the University of Chicago, it was demonstrated that although a decrease in iodin can actually be brought about by appropriate nerve stimulation, the latter induces vasoconstriction in the thyroid gland But a similar decrease can also be brought about by decreasing the thyroid blood flow by purely mechanical means

The changes in the thyroids thus far shown to be caused by stimulation of thyroid nerves can accordingly all be accounted for by vascular changes Histologic alterations indicative of specific glandular activity are not apparent in any of these cases Carlson has remarked in relation to these new observations that they appear to place the thyroids in the same category as the liver, that is to say, as organs very delicately balanced in relation to the local circulation, irrespective of any secretory nerves The fact that the thyroids have a greater blood supply than any other organ in the body, and that relatively transient disturbances in the vascular conditions bring prompt responses in the way of "secretory discharge," deserves to be noted This indicates, as Carlson reminds us, how difficult it is to decide whether one is dealing with vasomotor effects or specific secretory nerves in certain organs

---

COFFEE AND PROTEIN METABOLISM

Coffee is one of those dietary adjuncts which modern man has employed, like tea, alcohol, tobacco — and perhaps one ought to add the ubiquitous chewing gum — presumably to increase the pleasure of his existence quite independently of any need which they might serve in the organism The demand for all of these products is created by an artificial rather than a natural appetite Purveyors of the various articles of commerce have expended considerable effort and money to indicate on billboards and in other advertising spaces wherein the human mechanism is benefited and life made worth living by some particular brand of cigaret, whisky, tea, coffee, etc There has at length arisen an amusing competition in which alcohol-free beverages, detannated or decaffeinated coffee, and even nicotin-free tobacco are extolled for the supposed advantages without the alleged defects of the respective products concerned

In the midst of this extravagant bid for consideration, statements of merit or detriment are freely made as suits the case, and always with some semblance of scientific authority On the one hand, it has been stated that coffee has a protein-sparing action on the body, and older literature is quoted in support of this contention On the other hand, opponents of this view insist on the stimulating effect of coffee, and declare that it naturally tends to accelerate the metabolic processes The facts are that many years ago experiments were reported to indicate that caffein, the most potent ingredient of coffee, depresses the protein metabolism This was before the days of accurate balance experiments by which intake and output of food and excreta are carefully measured The now classic experiments of Carl Voit,[1] like those of Hoppe-Seyler before them, demonstrated that there is no significant increase or decrease of protein destruction under the influence of coffee

There has never been any serious occasion to doubt these negative results so far as any effect of coffee on protein metabolism is concerned Nevertheless new experiments have been conducted on man in a somewhat different manner in the Polyklinik at Basel by Liwschitz [2] The effect of ingested decoctions of coffee chicory and caffein-free coffee, and of caffein itself on the rate of metabolism of large intakes of the protein casein were in these cases also ascertained to be nil

Voit once remarked that the drinking of coffee and tea is sometimes defended on the supposition that they effect an economy of protein in the body There is no evidence that they do this He wisely concluded, therefore, that coffee is drunk because of its effect on the nervous system — and on this basis it must continue to be defended even today The danger of propaganda, whether in health documents or in advertising circulars, lies in the perversion of truth We need to know the truth about all of the fads and habits which are involved in our current mode of living The truth will serve the cause better in every way Enthusiasm should never be allowed to wander beyond the safe boundaries of demonstrable knowledge in matters of public or personal hygiene — or elsewhere

---

THE RODENT PROBLEM OF CITIES

The connection between rodents and plague has led to the accumulation of information regarding the frequency of their association with human habitations, as well as their destructiveness Studies have been made which throw light on the question of the number of parasites which have been permitted through carelessness to exist in the immediate neighborhood of man Until these comparatively recent investigations, scarcely any one would have believed how large a number of rodents find a means of livelihood for themselves in our cities and towns, especially those which have a series of docks and wharves A special report[1] of plague eradication work at New Orleans, made by the surgeon in charge of the United States Public Health Service work at that point, contains rather startlingly illuminating facts concerning these parasites

---

[2] Watts, C F Changes in Iodine Content of the Thyroid Gland Following Changes in the Blood Flow Through the Gland Am Jour Physiol 1915 xxxviii, 356

[1] Voit, Carl Untersuchungen über den Einfluss des Kochsalzes, des Kaffees, etc., 1860

[2] Liwschitz, O Ueber den Einfluss des Kaffees auf den Eiweissstoffwechsel beim Menschen, inaug diss Basel 1914

The total number of rodents captured up to November 13 of the past year runs up to 497,983 Some idea of the immense labor and the meticulous care required for thoroughness in sanitary work may be gathered from the fact that over 300,000 of these rodents had been examined up to the same date, and, though altogether only 265 cases of rodent plague were discovered, it is easy to understand how much of a danger for the dissemination of the disease these animals were Until the actual report, it would have been almost impossible to believe that a city like New Orleans, with its half million rodents actually harbored a larger population of rats and mice than it did of human beings

New Orleans is probably no worse in this regard than most of the coast cities of the southern part of the country, at least, and it is probable that as careful a hunt for the creatures would reveal their presence in proportionate numbers even in many of the towns of the interior It is scarcely necessary to call attention to the fact that this immense number of parasites, which so often get at food materials, constitute a distinct danger not alone as regards plague, though their direct connection with human diseases has been traced only with this great scourge It is almost needless to say, too, that when existing in such immense numbers they are eminently destructive directly and indirectly, and represent one factor in the waste of food materials which makes for want in this country and is adding to the high cost of living Undoubtedly what is taken to feed these rodents, or what is thrown out and serves them for sustenance, would keep from serious want many a human family that feels the pinch of lowered nutrition

Coast cities like New Orleans, San Francisco, Seattle and some of the other towns on Puget Sound have been compelled to take up the problem of obliteration of their rodent parasites by the occurrence of plague It would seem well worth while, however, for health authorities in other towns and cities to face this problem frankly before it becomes a source of actual immediate danger to health, because there is no doubt that the presence of these pests is extremely insanitary in many ways besides being seriously wasteful If it should prove that the rodent population of most of our towns and cities, as in the case of New Orleans, was nearly if not quite as numerous as the human population, the significance and urgent importance of this problem would be readily understood

EXERCISE AND THE GROWTH OF ORGANS

Although physical exercise is universally admitted to have a profound and, as a rule, beneficial influence on the human body, an adequate physiology of exercise still remains to be written Generalities and platitudes characterize most of the scanty literature on the real effects of muscular activity on the bodily structures and functions We read about the marked influence of exercise on "constitutional vigor," the improvement of "general nutrition," the strengthening of the muscles, the increase in "tonicity," the development of "alertness of mind," and similar results which are about as undeniable as they are indefinable A few of the functions can be studied directly, in man, in their relation to muscular exercise The effects on the size and strength and working capacity of skeletal muscles can be observed and measured with some accuracy The influences on the circulation and respiration also permit of reasonably direct determination Beyond these, however, there are numerous organs and reactions which have as a rule escaped accurate consideration even in the scientific treatment of the influence of exercise

In large measure the lack of more extensive data on the important topics related to the effects of exercise is due to the impossibility of suitable experimentation on man The changes in the size of specific muscles have been measured, and alterations in blood pressure have been ascertained, but the influence of exercise on the size of internal organs can be determined only in indirect ways The modification of the skeletal muscles like those of the arms and legs as a result of exercise are familiar Severe and long-continued exercise is also recognized quite universally to lead to a hypertrophy of the cardiac muscle The conjectures which must remain in reference to the modification of other organs, such as the liver, lungs, kidneys, etc, besides the heart, can be strengthened now from the results of extensive studies made at the Wistar Institute by Hatai[1] on albino rats This species, which has been the subject of very extensive anatomic and physiologic investigation in recent years, has much in common with man in the correlation of its parts and the general features of its growth and functions Comparisons are, therefore, not without value despite what might seem to the uninitiated as an enormous disparity of conditions Hatai made determinations of various external measurements, visceral organs, ductless glands, etc, in comparable animals, some of which had been allowed to exercise vigorously in revolving cages while their companions belonged to a nonexercised group It is very clear from the results that long-continued exercise (equivalent to a period of from seven to fourteen years in man) in the albino rat produces many striking alterations in the organs

---

[1] Plague Prevention Work Pub Health Rep Dec 3 1915 p 3552

[1] Hatai S The Influence of Exercise on the Growth of Organs in the Albino Rat Anat Rec 1915 ix 647

Medical News

(Physicians will confer a favor by sending for this department items of news of more or less general interest, such as relate to society activities, new hospitals, education, public health, etc.)

ILLINOIS

Knox County Hospital—The almshouse committee of the board of supervisors of Knox County has established a hospital at the County Almshouse, Knoxville, which will be in charge of Miss Nannie Campbell

Personal—Dr Martin W Cushing, formerly physician of the State Penitentiary, who has been ill with erysipelas in St Joseph's Hospital, Joliet, has left the hospital convalescent——Dr R P Grim, Canton, underwent operation December 13, in Mercy Hospital, Chicago, and is now said to be convalescent——Dr George N Lucas formerly of the staff of the Elgin State Hospital has accepted a position on the staff of the Wilgus Sanatorium Rockford——Dr Emil Lofgren, Rockford, is ill at his home with erysipelas——Dr Hamilton T King Joliet, who has been threatened with pneumonia, is reported to be convalescent

School for Health Officers—With the beginning of the new year, the enlarged service of the State Board of Health will be fully organized on a permanent basis This increased service will be brought about by the employment of district health officers, the state epidemiologists and the newly organized Bureau of Sanitary Engineering For district health officers service the state has been divided into five districts each of which will have its own full time health officer and each of these officers will be expected to establish in his district a conference or school for health officers to meet at least twice a year and to carry out programs or papers and discussions of such character as will serve to enlighten local health officers as to the latest and most approved methods of public health administration There will also be held an annual conference of all the health officers of the state At these annual meetings it is the purpose of the board to bring sanitarians and health authorities of prominence to speak on special subjects

Chicago

Morbidity—January 2 it was reported that there were 2 035 patients presented for treatment at the County Hospital, chiefly on account of the prevailing epidemic of influenza This is said to be the largest number handled in one day since the opening of the Cook County Hospital

Osteopath Fined—It is reported that Daniel C Ward an osteopath of Chicago, was fined $100 and costs for practicing medicine without a license The evidence included the alleged fact that he used the title of "Doctor" on his office door, on his business stationery, and in the telephone book and in the city directory, without holding a physician's license

Statistics of Cook County Hospital—According to the report of the Warden of Cook County Hospital, 61,622 patients were accommodated during 1915 Of this number, 28,719 were cared for in the main hospital, while the others received minor attention, 3 286 were insane patients in the psychopathic hospital, and 21,457 applicants for hospital attention were rejected

Leper in County Jail—George O Hartman, the St Louis leper, who escaped two years ago from the Leprosy Colony at Koch, Mo, is isolated in a wing of the Cook County jail Since his escape from the leper colony, Hartman has been working at various trades, and in November opened a restaurant in Chicago and also kept a rooming house He was arrested to answer to an indictment for robbery, and on the usual physical examination, the disease was discovered

Coroner's Inquests—According to the annual report of the Coroner of Cook County, there were 6,235 unnatural deaths during 1915, as compared with 5 591 in 1914, the 812 drownings in the *Eastland* disaster being given as the cause of the increase Because of the *Eastland* disaster the greatest of deaths from any single cause was from drowning Gas poisoning caused the death of 242 persons Other poisons killed 109 persons Automobiles killed 225, as compared with 143 the year before During 1915 fifty-eight children were victims of burns and scalds, as compared with 135 during the previous year

INDIANA

Chiropractor Fined—Pearl B Winters, a chiropractor, is reported to have been fined $40 and costs in the circuit court for practicing medicine without a license

Gorgas in Indianapolis—Major-General William C Gorgas, Surgeon-General, U S Army, is to be the principal speaker at the joint convention of the Indiana Engineer Society and the Indiana Sanitary and Water Supply Company, to be held at the Claypool Hotel, Indianapolis, February 2 to 5

Personal—Dr William P Harter, Anderson, who has been seriously ill with pneumonia, is reported to be convalescent——Dr Daniel Yingling, Huntington, fell December 23, fracturing his left hip——Dr Clarence H Mead, health officer of Bluffton, who has been ill with diphtheria, is reported to be convalescent

Hospital Notes—The new King's Daughters Hospital at Madison, erected at a cost of $40 000, was dedicated December 19 It takes the place of the old building which the King's Daughters have supported for the last fourteen years——The Giorgi Hospital, Gary, was damaged by fire, recently, but no one was injured

Tuberculosis Notes—The Lake County Medical Association has petitioned the county commissioners to make an immediate appropriation for the establishment of a tuberculosis sanatorium for the county The petition has been signed by several thousand voters It is proposed at present to have only an executive building erected with tents and cottages for the patients——Work has already been commenced at Camp Fort Recovery, the Allen County Tuberculosis Sanatorium, on three additional cottages which, when finished, will make the total number fifteen Patients will be removed to the new buildings as soon as they are ready for occupancy

IOWA

Fire at Serum Laboratory—Fire in the Waterloo Serum Laboratories November 30 caused a loss estimated at $10,000

Hospital Burns—The Bellevue Hospital, Muscatine, was burned December 22, with a loss of about $5,000 The patients were removed without casualty

Smallpox Closes School—The Iowa City Board of Education has ordered the Third Ward School closed temporarily on account of the appearance of smallpox

New Officers—The new officers of the Monona County Medical Society are president, Dr Emil C Junger, Soldier, vice president, Dr M O Stouch, Whiting, and secretary-treasurer, Dr Frederick S Spearman, Whiting

Memorial Hospital—W M Greeley, president of the Union National Bank of Ames, is preparing to build a hospital in memory of his wife The building will cost $15,000, will be of brick, fire-proof, three stories and basement, and will contain thirty rooms and two wards

State Board Publications—Two most notable publications have just been issued by Dr G H Sumner, secretary of the State Board of Health The first is a nurses' bulletin which, in addition to a number of articles, contains a complete list of nurses of the state, and the second is a poster on typhoid fever, illustrating the various means by which typhoid infection is carried

Keokuk Physicians Organize—At a meeting held at the Hotel Iowa, Keokuk, December 10, the Physicians' Club of Keokuk was organized with an initial membership of twenty-six, and the following officers were elected president, Dr Robert M Lapsley, vice presidents, Drs Lee M Coffey and Henry A Gray, secretary, Dr Frank M Fuller, and treasurer, Dr Charles A Dimond

Personal—Dr Russell M Young, Sidney, sailed for London, December 21, where he expects to spend a year in the study of diseases of children——Dr George F Severs, Centerville, was seriously injured by a fall on a slippery sidewalk, December 21——Dr Wilton McCarthy, Des Moines, who was injured some time ago in an automobile accident, has recovered and resumed practice——Dr and Mrs Albertus J Burge have left Iowa City for Mason City, where Dr Burge has accepted a position on the surgical staff of the new Mercy Hospital——Dr Rex V Henry, Hedrick, was operated on for appendicitis, December 8——Dr John B Heles, Dubuque, sustained a fracture of the clavicle in a collision between his automobile and a street car December 1

——Dr Frank C Carle, Garrison, was operated on recently for hernia in Iowa City and is making a good recovery

KENTUCKY

The Vance Memorial—Up to December 21, $5,732 00 had been contributed to the Ap Morgan Vance memorial, which is to be used as a permanent endowment fund for the Children's Free Hospital

Hospital Notes—It is proposed to erect a modern, fireproof hospital in Danville to cost $40,000 Of this amount $22,500 has already been raised and a lot on which to erect the building has been donated

Disposal of Lexington Sewage—Passed Asst Surg Wade H Frost, U S P H S, in charge of the Ohio River investigation, and Sanitary Engineer H R Crohurst, U S P H S, have been directed to proceed to Lexington to study local conditions and advise in regard to proposed plans for sewage disposal of the city

MARYLAND

Personal.—Dr William H Welch, president of the board of directors of the Rockefeller Institute for Medical Research, arrived in San Francisco from China, December 27——Dr William J Coleman, superintendent of the University Hospital, fractured and dislocated his finger in a struggle with a violently insane patient December 17——Christmas tableaux were given December 21 at Mount St Agnes' College, Mount Washington, in honor of Dr William J Todd, who has been medical adviser of the college for more than a quarter of a century

Urges United States Quarantine—Surg James A Nydegger, in charge of the local United States Public Health Service, has strongly indorsed the plan for the federal government to take over the quarantine station at Baltimore New York and Baltimore are now the only Atlantic ports that retain control of the quarantine It is planned, in the event that the federal government takes over the station to make some arrangement with the government by which smallpox patients can be received at quarantine, as there is no other hospital at Baltimore to receive such cases

Additions to Staff—Dr C Reid Edwards, Baltimore, has been appointed superintendent of the James Lawrence Kernan Hospital and Industrial School for Crippled Children, and Dr Louis A Buie, resident surgeon In the report of the surgeon-in-chief, Dr R Tunstall Taylor, there are recorded 21,938 days of hospital care given crippled children from Oct. 1, 1914, to Oct 1, 1915 Two hundred and thirteen children were treated in the hospital, 152 were operated on, requiring 241 different operations, 5 016 dispensary visits were paid, and 1 024 visits to the homes made by the Social Service nurses More than 300 are on the list of patients

MONTANA

Personal—Dr George J Marquette, Deer Lodge, has been appointed coroner of Powell County, to succeed O B Roberts, removed——Dr Daniel J Donohue, Glendive, has located for practice in Butte

New Railway Hospital at Livingston—It is announced that a branch hospital will be established by the Northern Pacific Beneficial Association at Livingston and it is planned to use the Livingston Hospital on South Third Street for this purpose

Surgical Institute at Lewistown—Local physicians headed by Dr Fred F Attix are working on a plan to establish a medical and surgical institute at Lewistown with provision for laboratory work. The building with equipment will cost $40,000

Chiropractor Tried—Charges are reported to have been filed by the Montana State Board of Medical Examiners against W R Hopkins a chiropractor in Helena, who is alleged to have been tried last May in the district court and found guilty, but filed an appeal which is still pending

Tuberculosis Colony Planned—Dr Thomas C Witherspoon, Butte, suggests a plan of colonization against tuberculosis With a contribution of $1 a month from each miner in Butte a large tract of ground could be purchased which could be divided into small farms and used as homes for the families of men suffering from tuberculosis The factors necessary for the success are, an amount of ground which can be made reasonably productive, the presence of a physician in the immediate neighborhood who is interested in the work and sufficient capital to provide housing for the patients and their families

NEW YORK

Plan to Enlarge Hospital.—A fund of $22,000 has been subscribed for an addition to the Southampton Hospital, at Southampton, L I Work will be begun in the near future

Personal.—Dr H H Mitchell, Canisteo, has returned after six months' work with the Red Cross in Serbia——Health Commissioner Francis E Fronczak of Buffalo injured his leg severely while boarding a street car, December 7

Tribute to Trudeau—At the annual meeting of the trustees of the Adirondack Cottage Sanatorium, December 21, Dr Walter B James, New York City, was elected president, Dr Edward R Baldwin, Saranac Lake, vice-president, Mr George S Brewster, secretary-treasurer, and Dr Frederick H C Heise, Trudeau, resident physician The trustees adopted a resolution paying tribute to the memory of Dr Edward L Trudeau and directing that this tribute be spread on the records of the meeting

Chiropractor Denounced—R. D Lytel, a chiropractor at Rochester, is reported to have been denounced recently at a coroner's inquest for malpractice on the deceased, a man named Wilkinson Wilkinson, according to testimony, had been ill for some months and was persuaded to go to the chiropractor who placed him on a table and with his knee made what was called a "spinal adjustment" It was stated that paralysis from the waist down followed this treatment, and physicians who were then called found that the patient's back had been broken The autopsy showed that the patient had been suffering from a gastric ulcer and peritonitis The health commissioner of Rochester is quoted as saying "For a chiropractor to have worked on this man in the condition he was in, was nothing short of murder"

New York City

Personal—Dr Earl B Downer, who has been in Serbia for several months in connection with the American Red Cross reached New York, December 15, on the *Espagne* Dr Downer was in Belgrade during the bombardment of the city

Police Psychopathic Laboratory—The police commissioner of New York, after two months experimental work, has established a laboratory for the purpose of examining prisoners so as to determine which among them are mentally defective The laboratory will be situated at police headquarters and will be under the direction of Dr Louis Bisch, who has been conducting the experimental work

Department of Health Labels Patent Medicines—The "Goldwater Registry Law," requiring that all patent medicines have a proper declaration label on the outside or that the seller declare the contents to the board of health, went into effect on Jan 1, 1916 Several days before this date 300 inspectors from three bureaus of the department of health started to canvass 2,494 drug stores in Greater New York, and place labels on 5,000,000 packages of patent medicines Druggists have been urged to give inspectors their cooperation in enforcing this ordinance.

Prize for Public Health Work.—The jury of awards has just published the official list of prizes awarded at the Panama-Pacific Exposition Among these is the Grand Prize to the Department of Health of New York City for its work in health and sanitation Among other first prizes which this department has received are the first prizes at the World s Fair in Chicago the Louisiana Purchase Exposition in St Louis, and the International Congress on Hygiene and Demography in Washington The department of health is the only individual department in the city to receive a grand prize.

Increased Death Rate from Influenza and Pneumonia—The death rate from influenza and pneumonia has taken a jump According to figures compiled by the department of health the noteworthy feature of the mortality report for the week ended December 25 is the abnormally high death rate from influenza and pneumonia The number of deaths from influenza is five times as many as during the corresponding week of last year and twice as numerous as the deaths from this cause during the previous week There were nearly 200 more deaths from pneumonia last week than during the corresponding week of 1914 If we estimate that the mortality of pneumonia is about 20 per 100 there were about 2 000 cases of pneumonia in the city last week.

Reorganization of Cumberland Street Hospital.—Commissioner of Charities John A Kingsbury has requested the resignation of the fifty-seven members of the medical staff of the Cumberland Street Hospital Brooklyn This action is not to be considered as casting any reflection on the reputation or efficiency, but is the result of a plan to do away with a bulky medical staff and to substitute a board of men who will devote their whole time to the interests of the hospital Under the new system the medical staff will be divided into four departments as follows department of surgery, under the charge of Dr J Hubly Schall, department of medicine, Dr E Rodney Fiske, department of obstetrics, Dr Herbert C Allen, and department of gynecology, Dr J Francis Ranken Commissioner Kingsbury has announced that he is considering a plan for a similar reorganization of all the hospitals directly under his control The chief feature of the proposed reorganization is the substitution of paid chiefs of departments for the large medical boards of nonsalaried physicians and surgeons

Adenoid and Tonsil Operations in Schoolchildren—Several years ago, because of lack of adequate facilities for the operative treatment of diseased tonsils and adenoids, the department of health established a number of clinics where schoolchildren needing operative treatment could be suitably cared for Nearly one third of all the operations for tonsils and adenoids performed on schoolchildren during the last three years have been performed in the clinics of the department In the judgment of the board of Estimate and Apportionment, the time has come when the dispensaries and hospitals should take care of this work and accordingly no provision is made for the maintenance of these clinics This matter has been taken up by the Associated Out Patient Clinics, the State Charities Aid Association and the Public Health Committee of the New York Academy of Medicine who have called the attention of the various clinics to this subject These organizations are agreed (1) that all adenoid and tonsil operations on children should be done under general anesthesia, and (2) that hospitals where these operations are performed should be equipped to keep their patients for at least eighteen hours after the operation

NORTH CAROLINA

Personal—Dr Gaillard S Tennent, Asheville, after several weeks in the ophthalmic clinics in the east, has returned and resumed practice——Dr Julius A Dosher, Southport, has been reelected physician of Brunswick County

Buncombe County Physicians Elect Officers and Dine—The twentieth annual meeting and banquet of the Buncombe County Medical Society was held in Asheville December 21, with more than sixty present Dr M Hall Fletcher Asheville, president of the Medical Society of the State of North Carolina, was the guest of honor Dr C Hartwell Cocke, officiated as toastmaster At the annual meeting the following officers were elected president, Dr Charles L Minor, vice president, Dr Lewis W Elias, and secretary-treasurer, Dr Gaillard S Tennent

District Society Meetings—The Ninth District Medical Society held its annual meeting in High Point and elected Dr John Bynum president, and Dr Wingate M Johnson, secretary, both of Winston-Salem The 1916 meeting of the society will be held in Winston-Salem——The annual meeting of the Seventh District Medical Society was held in Rutherfordton December 13 and 14, and the following officers were elected president, Dr Montgomery H Biggs, Rutherfordton, vice president, Dr Henry D Stewart, Monroe, and secretary-treasurer, Dr Silas R. Thompson, Charlotte Monroe was selected as the next place of meeting

OKLAHOMA

Addition to Oklahoma City Hospital—A state-wide campaign has been inaugurated to raise funds with which to build a four-story addition to St Anthony's Hospital, Oklahoma City, and to establish a medical research laboratory The plans under consideration will involve an expenditure of from $100,000 to $125,000

Central Oklahoma Physicians to Meet.—The annual meeting of the Central Oklahoma Medical Association will be held in Enid, January 11 Dr LeRoy Long, dean of the medical school of Oklahoma University, will deliver an adress on "Oklahoma's Medical Schools," and Dr John W Duke, state health commissioner, will speak on "Small Town Sanitation"

Higher Entrance Standard Adopted—A letter from the president of the University of Oklahoma states that two years of collegiate work will be required for admission to the school of medicine of that university after Jan 1, 1917, this college work to include courses in physics, chemistry, biology and French or German This standard has been aproved by the State Board of Education of Oklahoma

OREGON

Personal—Dr Harry A Beauchamp has been elected mayor of Stayton——Dr R E Lee Steiner, Salem, superintendent of the Oregon State Hospital for the Insane, has been unanimously reappointed for a term of four years

Portland Physicians Elect—At the annual meeting of the Portland City and County Medical Society held in Portland, December 15, Dr George S Whiteside was elected president, Dr Alvin W Baird, vice president, Dr J Guy Strohm, secretary, and Dr Katherine C Manion, treasurer, all of Portland

Medical Buildings for University Assured—Four business men of Portland have contributed $25,000 toward the establishment of new buildings for the Medical Department of the University of Orgeon, Portland This makes available the $50,000 appropriated by the state The officials of the college now propose to begin a campaign for an additional $100,000

State Board Election—At the annual meeting of the State Board of Health in Salem, December 20, Dr Willis B Morse, Salem, was elected president, Dr Alvane C Seely, Roseburg, vice president, and Dr David N Roberg, Portland, secretary and registrar (reelected) The board endorsed the action of the State Board of Health of California in appointing a committee to look into conditions in that state with a view to urge the government to establish a leprosarium

PENNSYLVANIA

Personal—Dr Samuel G Dixon has been elected president of the Academy of Natural Sciences, Philadelphia, for the twenty-first time and executive curator for the twenty-fifth time——Dr Edward Ryan, Scranton, who has been working against typhus in Serbia, has reached Geneva on his way back to the United States——Dr W Knowles Evans has been appointed supervisor of health and Dr Joseph R T Gray, Jr, city bacteriologist of Chester——Drs John S Monohan, William N Stein and Arthur J Burkheiser have been appointed by the Philadelphia and Reading Coal and Iron Company to care for their injured from the collieries in Shenandoah and Shenandoah Valley, under the new compensation law which took effect January 1

Philadelphia

Deaths—During the week ended Dec 30, 1915, there were 971 deaths in the city, nearly one half of which were due, it is said, to influenza and pneumonia, the prevailing infections December 27 there were 262 deaths reported

University of Pennsylvania Men in the War Zone—The record of the University of Pennsylvania reports that more than 600 students and alumni of that institution are either fighting or doing medical work in the war zone Drs Ralph H Luikart and Clarence S McKee, recent graduates of the institution, have been on duty in the typhus epidemic in Serbia

Personal—Dr R Norton Downs was elected president of the board of supervisors of Horsham Township at a recent meeting——Dr Charles B Penrose, who was recently appointed a member of the Fairmont Park Commission to fill the expired term of the late Peter B Widener, is reported to be seriously ill with bronchopneumonia at the Hotel Belvidere, Baltimore

TENNESSEE

Influenza—December 14 it was reported from Memphis that there were 2,500 pupils absent from the schools on account of an epidemic of "grip"

Pellagra Hospital—At Chattanooga architects have been employed by the city to draw up plans and specifications for a hospital for the treatment of pellagrous patients The hospital will not be elaborate, but comfortable and well equipped for the purpose It will cost about $5,000

Personal—Dr Reuben S Toombs, Memphis, is reported to be seriously ill with pneumonia at his home.——Dr John Minor Blackford, Rochester, Minn, read a paper before the Chattanooga and Hamilton County Academy of Medicine, December 10, on "Newer Cardiac Pathology and Diagnosis"

Hospital Notes—At a meeting of the Chamber of Commerce at Clarksville, December 9, it was decided to establish a hospital in Clarksville with a capital stock of $5,000 Nearly one half of the amount was subscribed at or immediately after the meeting——The $200,000 campaign for the Galloway Memorial Hospital, Nashville, has been postponed until April, 1916

Tuberculosis Notes—The new tuberculosis sanatorium for Nashville and Davidson County, the erection of which was commenced last March, is now completed and ready for occupancy It is a three-story structure, and on the first and second floors there are sixty beds available for patients, while the nurses will be accommodated on the third floor ——The City Council of Memphis and the Shelby County Commissioners have agreed to erect a joint tuberculosis hospital of sufficient size to care for all patients in the county The details were fixed at a meeting January 3

TEXAS

Honors Memory of Member—At the regular meeting of the Harris County Medical Society at Houston, December 23, resolutions were adopted regarding the late Dr Forrest B Smith

Malarial Survey—Surg Rudolf von Esdorf, U S P H S, will come to Dallas early in the spring to make a malarial survey of the city and to give practical advice on the extermination of the mosquito

State Board to Meet in Temple—The State Board of Medical Examiners at its recent meeting in Dallas voted to meet in Temple, March 1, for reorganization and the election of officers Examinations will be held in San Antonio after the meeting in Temple

Surgical Society Incorporated—The Texas Surgical Society has been incorporated at Houston without capital stock by James E Thompson, W Burton Thorning and John T Moore The purpose assigned is cultivation and improvement of the science and art of surgery

Tuberculosis Items—The members of the Texas Tuberculosis Commission have awarded a contract for the construction of four new buildings at the State Sanatorium, Carlsbad, for $57,400 Two of the buildings are to be dormitories, a third a subsistence building and the fourth a dairy barn——The city council of Fort Worth has appropriated $8 000 toward the construction of eight cottages for tuberculosis at the Tarrant County poor farm

Typhus Fever—It is reported that typhus fever has reached Texas from Mexico December 24 three cases were reported at Laredo, where hundreds of Mexican refugees have gathered The United States Public Health Service has detailed special agents to all towns along the border, and at these places a rigid quarantine will be established Dr C C Pierce of the Public Health Service has been ordered from San Francisco to Laredo to take charge of the situation The Red Cross has taken up the question of attempting to render assistance should it be needed The State Board of Health of Texas is likewise alive to the situation and orders have been issued to all quarantine stations to enforce the twelve-day detention rule on all persons coming to Texas from the infected districts and from Mexico, and to disinfect and fumigate all baggage and railroad cars State Health Officer Collins visited Laredo December 24, and gave instructions for the enforcement of quarantine and for the care of the patients there

CANADA

Examination of Cooks and Waiters—Dr Charles J Hastings, M O H, Toronto, as a means of safeguarding the purity of the food given to people who eat in public dining rooms, has ordered that the 2,000 odd cooks and waiters in Toronto hotels and restaurants shall be physically examined twice a year to ascertain that they are free from disease.

Care of Defectives in Ontario—To a deputation which recently waited on the provincial secretary of Ontario in connection with the care of defectives, the Hon W J Hanna declared that to handle in an adequate manner the problem of the feebleminded in that province would require a capital expenditure of $1 000 000 He favored the matter being undertaken in a provincial rather than in a municipal way The deputation, which included Dr Charles K. Clarke of the Toronto General Hospital, and Dr Helen MacMurchy, assistant inspector of public institutions, recommended classes for backward children in the public schools, a register of all mental defectives in the city, an education clinic where medical investigation might be carried on, an institution of the farm colony type at a cost of $25,000 to $50,000 per cottage of fifty inmates It was pointed out that there were 83 mentally defective children in public homes in Toronto and others in the industrial schools It was estimated by the chief inspector of Toronto that no fewer than 250 to 300 mentally defective children were in attendance in the public schools in Toronto

War Personals—Surg-Gen Carleton Jones, Ottawa, now on active service, has been knighted by King George V——Lieut-Col John D Courtenay, Ottawa, is now in command of the Canadian Eye and Ear Hospital at Folkstone, England, Maj Perry G Goldsmith, Toronto, is second in command, and Captain Bell Winnipeg, adjutant Among other Canadian medical men with the hospital are Major Laviolette, Montreal, Captain Courtenay, Ottawa, Captain Taylor, Port Arthur, Captain Harrison, Hamilton, Ont, Captain Hunter (consultant), Winnipeg, Man——George G Nasmith, Ph D, chief of the city laboratories, Toronto, and who was sanitary officer with the first Canadian Overseas Force, now in Toronto on furlough, appears among the honor roll of Sir John French Others of the medical corps also in the honor roll are Colonel Bridges, Col Murray MacLaren, St John, N B, Major McKinnon, Major Young, Captain Gibson, Captain Macdonald, Captain Smith and Lieutenant Hart——Surg-Gen James A Roberts is in command of the University of Toronto Base Hospital, which is situated 5 miles from Saloniki on the road to Monastir Owing to the severity of the weather, considerable suffering has been occasioned the unit, but all are well and cheerful As soon as the hospital tents were pitched they admitted forty to fifty patients, those numbers were rapidly increased and the unit has been caring for, on the average, between 400 and 500 patients Recently, however, owing to the severity of the weather, many cases of frost bite have been admitted and the numbers have been in the neighborhood of 1,300——Dr Dr Robert M Simpson, Winnipeg, Man, prominent in public health medicine, chairman of the Manitoba Board of Health for a number of years, and at one time president of the American Public Health Association, appeared in the Bow Street Court, London, England, charged as a fugitive from justice in the province of Manitoba Dr Simpson is alleged to have received $100,000 of the moneys of the province and to have used the same for election purposes The charge which Dr Simpson, who has been serving his country in France, is under, is claimed by him to be a purely political one——Dr James D Macdonald, liberal candidate for Muskoka, Ont., is to be medical officer of the One Hundred and Twenty-Second Battalion, with the rank of captain——Capt James Moore, Listowel, Ont., has been transferred to the Thirty-Third Battalion now at Quebec, to succeed the late Maj A V Beecher, London, Ont, as medical officer——Dr James Roberts, M O H., Hamilton, Ont, is home from the Dardanelles after many months' service He has leave of absence for one month Dr Roberts says sanitary conditions at the Dardanelles are frightful Every one of the 120 men in his unit suffered from typhoid and dysentery within a short time of their arrival at the Straits ——Lieut-Col Charles A. Peters, Montreal, who has been officially authorized to raise and command No 9 Field Ambulance to be recruited with the Fourth Canadian Division, has secured the services of Maj Alfred T Bazin, Montreal, consulting surgeon at the Montreal General Hospital, to be second in command

GENERAL

Northwestern Surgeons Meet.—At the annual meeting of the Chicago and Northwestern Railway Surgeons Association, held in Rochester, Minn December 10 and 11, Dr C W Hargens, Hot Springs, S D, was elected president.

Seaman Medal Awarded.—The Louis Livingston Medal for progress and achievement in the promotion of hygiene and the mitigation of occupational diseases has been awarded this year by the American Museum of Safety to William A Fairburn New York City

Southwestern Physicians Meet.—At the annual meeting of the Southwestern Medical and Surgical Association held in El Paso, N M December 11, Dr Abraham G Shortle, Albuquerque, N M, was elected president, and Drs William W Watkins Phoenix Ariz. and Robert E. McBride, Las Cruces, N M., were elected vice presidents

Canal Zone Medical Society Meeting—The Medical Association of the Isthmian Canal Zone held its annual meeting December 16 and elected the following officers president Dr Lewis B Bates, vice president Dr Herbert C. Clark and secretary-treasurer, Dr Frazer F Monroe, all of Ancon The next meeting will be held in Ancon, Dec 16, 1916

Northern Pacific Surgeons Hold Meeting—The Northern Pacific Surgical Association at the annual meeting in Spokane, December 17, elected the following officers president, Dr James R Yocom, Tacoma, vice presidents, Drs George S Gordan, Vancouver, B C, and G L Whiteside, Victoria, B C, and secretary-treasurer, Dr Edward A Rich, Tacoma Tacoma was selected as the next place of meeting

Southern Surgeons Elect New Officers—At the annual meeting of the Southern Surgical and Gynecological Association held at the Hotel Gibson, Cincinnati, December 14 and 15, Dr Thomas O Cullen, Baltimore, was elected president, and Drs Robert S Hill, Montgomery, Ala, and Willard Bartlett, St Louis were made vice presidents White Sulphur Springs, W Va, was selected as the place of meeting for next year

Foes of Alcohol Meet—At the forty-fifth annual meeting of the American Society for the Study of Alcohol and Other Narcotics, held in Washington, December 15, the following officers were elected president Dr De Lancey Carter New York City, vice president, Col L Mervin Maus, U S Army (retired) Frankfort, Ky, corresponding secretary-treasurer and editor of the journal, Dr Thomas D Cruthers, Hartford Conn, and recording secretary, Dr Alfred Gordon, Philadelphia

Personal—Dr John F Anderson formerly surgeon U S P H S, has returned from Europe His present address is New Brunswick, N J——Dr Ferdinand Shoemaker, assistant medical examiner in the United States Department of Indian Affairs, with headquarters in Salt Lake City, has gone to Skull Valley to investigate trachoma among the Indians——Dr Thomas W Jackson who has been on duty which the American Red Cross in Serbia, spent the Christmas holidays with his family in Akron, Ohio

Public Health Hospitals—It is announced that President Wilson will submit to Congress a plan for a new system of public health hospitals to take the place of the present condition of contract care of patients and government hospital service The first step will be to take over the meteorological research station at the summit of the Blue Ridge, Mount Weather, Va, and convert it into a hospital for sailors and other patients from the Atlantic seaboard Within another year locations will be selected for hospitals in Southern California and the southeastern part of the United States

Eugenic News—The *Eugenic News* is a new publication of the Eugenics Record Office at Cold Spring Harbor, New York It is at present a four-page sheet The first number contains an editorial on the purpose of the new publication and news concerning the doings of the Eugenics Record Office, news concerning field workers and general news of the eugenics movement It is hoped that by having a medium of communication between the various eugenic organizations and workers that much duplication of effort may be avoided and the whole movement promoted

Baking Powder—January 14, at the bureau of chemistry, Washington, D C, there will be a hearing by the joint committee on definitions and standards regarding baking powder At the hearing all interested parties will be given an opportunity to present their views as to what should constitute the proper definition or standard for baking powder The joint committee is composed of representatives of the department of agriculture, the Association of American Dairy, Food and Drug Officials, and the Association of Official Agricultural Chemists The standards established by this committee are for the guidance of federal and state officials in the enforcement of the food and drugs law

Rabies—The department of agriculture is said to be acting through the biologic survey and the forest service in combating the serious wave of rabies among wild and domestic animals in the regions of the national forests of the West The chief source of the spread of the disease is said to be coyotes The eradication of coyotes in a rough country is said to be exceedingly difficult Congress last year provided a fund of $125,000 to be spent by the biologic survey for the eradication of predatory animals on the public domain Rabies first appeared in parts of Eastern Oregon, Washington and Northern Idaho and has now extended into Northern Nevada and Northern California In California Modoc and Lassen counties have been placed under quarantine by the state board

China Educational Expedition Return—Dr Simon Flexner, New York, director of the Rockefeller Institute for Medical Research, Mr Frederick Taylor Gates, chairman of the board of trustees, Dr William H Welch, Baltimore, president of the board of directors, and Mr Wallace Buttrick, executive secretary of the general education board, reached San Francisco, December 27, on the *Tenyo Maru*, after a visit to China in connection with the work of the China Medical Board of the Rockefeller Foundation The trip to China was to make a survey of the medical resources of the country that they might be enabled to investigate conditions and suggest betterments which they might find desirable During the stay of the commission in China, they assisted at the dedication of the hospital at Chang Sha

Bequests and Donations—The following bequests and donations have recently been announced

Massachusetts General Hospital Boston, $5,000, for the establishment of free beds to be known as the Ella Channing free beds by the will of Ella Channing, Milton, Mass

Leonard Morse Hospital, Natick, Mass, $5,000, and Carney Hospital Boston, $1,000, by the will of Patrick H Cooney, Natick

Highland Park (Ill) Hospital, donation of $10,000, toward the building fund by Walter C Hately, Highland Park

University of Kansas, for the benefit of the medical department the remainder of the estate, real and personal, amounting to about $25 000 for the establishment of an annual scholarship to be known as the Dr J L Porter scholarship, by the will of the late Dr Joseph L Porter, Paola

Weeping Water (Neb) Hospital, a contingent bequest of $7 500, by the will of Seymour A Reed, Weeping Water The will provides that the legacy will be in force provided $12,500 is raised for the hospital by the citizens of Weeping Water

New York Medical College and Hospital for Women, a donation of $1 000, for laboratory equipment by Dr Marshall O Terry

New York Medical College and Hospital for Women, a bequest of $10,000 by W W Cole a donation of $2,000 by Dr Cornelia C Brant, Brooklyn, and donations of $1,000 by Dr William E Diefenbach New York City Dr Walter Gray Crump, New York City, and Miss Anna Spring

Biltmore (N C) Hospital, a bequest of $100,000 by the will of E S Bacon, New York City

For a hospital for the Presbyterian State Orphanage, Barium Springs, N C, a donation of $15,000 by James and W H Sprunt, Wilmington, N C

Public Health Report of the Secretary of the Treasury—Among recommendations in the annual report for 1915 of the secretary of the treasury with reference to the Public Health Service are the following (1) An increase in the appropriation for field work. It is said that there is great need of additional medical officers The number of requests for advice and assistance in health problems from states and municipalities during the year far exceeded those of any similar period in the history of the service. In many instances the department was unable to comply The field investigations in the Public Health Service have served as a stimulus to state and local health agencies (2) Appropriation for an additional building for the hygienic laboratory It is said that the work of this institution has been greatly extended in the direction of the examination of viruses, serums and the analogous products A great demand for these products has been stimulated by the war abroad An appropriation of $25,000 is therefore recommended to enable the department to carry out the law relating to the examination of these products (3) The establishment of a national leprosarium It is said that the United States is the only government of importance which does not provide for the care and isolation of lepers (4) Additional clerical assistance is needed by the public health bureau

National Tuberculosis Association—At a meeting of the board of directors of the National Association for the Prevention of Tuberculosis, held in October, a report of which has not hitherto been printed, the following measures were adopted and recommended A committee on medical education for physicians was appointed It consists of Drs H R M Landis, Philadelphia, Dr W Gilman Thompson New York, Dr George Blumer, New Haven, Dr John Ritter, Chicago, and Dr Charles P Emerson, Indianapolis The committee will consider a course on tuberculosis for use in medical schools A committee on education of nurses was also created for the purpose of considering a standard course on tuberculosis for nurses' training schools Annual medical examination of the office force of the association including new employees, was authorized A committee was appointed to consider and formulate standards for the diagnosis of tuberculosis in children Dr James Alexander Miller, New York, was made chairman A committee to consider standard hospital and other records was also proposed, the committee to be appointed later A committee was provided for research in tuberculosis with a fund of $1,000 Dr Edward R Baldwin, Saranac Lake, N Y, was made chairman, and the remainder of the committee was selected by him The next annual meeting was fixed for May 11-12, 1916, at Washington, D C, immediately following the sessions of the Triennial Congress of Physicians and Surgeons

FOREIGN

Deaths in the Profession Abroad—W A Borger, assistant director of the Pasteur Institute and vaccination service in Java, aged 40 He succumbed to laboratory infection in research on bubonic plague——B Wicherkiewicz, professor of ophthalmology at the University of Cracow, aged 58

Norway's Supply of Medical Men—*The Norsk Magazin for Lægevidenskaben* states that there are now 1,221 physicians in that country, to a population of 2,400,000 This is equivalent to 5 09 to each 10,000 inhabitants, very nearly the same proportion as in Germany in 1913, namely, 5 11 per 10 000 The total for Germany was 34,136 physicians to a population of 66,800,000

WAR NOTES

Physicians Needed in Bulgaria—The Bulgarian embassy in the Netherlands has appealed to Netherlands physicians for medical aid in Bulgaria where it is urgently needed for the populace at large An appeal has also been made to Swiss physicians, and E Bircher chief of the surgical service at the Aarau Cantonal Hospital applied for two months' leave of absence to serve in Bulgaria but the authorities said that he could not be spared from his post

Losses of the University of Paris in the War to Date—The *Presse Médicale* gives an illustration of the large tablet to be erected under the arcade of the great staircase of the medical department of the University of Paris In October the design, already in place contained the names of six members of the faculty, victims of the war (Galland Legrand, Moog Pelissier, Schrameck and Reymond—the latter the aviator) There are also inscribed the names of forty-seven students and of twenty-six former graduates of the institution Landouzy comments on this total of seventy-nine medical victims that the new methods of warfare have incredibly increased the dangers and privations of the medical men with the army They keep right with the men in the trenches and toil on while others sleep

LONDON LETTER

London, Dec 13, 1915

The War

THE DEARTH OF MEDICAL STUDENTS

An appeal has been made by a number of distinguished university representatives including Sir Clifford Allbutt, Prof J N Langley, Sir Frederick Treves and others against the government policy of recruiting medical students in their first three years as combatants It is pointed out that during the war and after it there will be a greater need for physicians than has existed for many years and it will be impossible to satisfy this need The result must be tragic to the fighting line, to those who are supplying their needs at home, and to the general public. Even if all medical students remain at their work, the position will still be one of anxiety, but if these young men are all called up there will be a catastrophe. Certain restrictions might, of course be enforced to prevent shirkers from taking advantage of the medical schools and it might be arranged that no medical schools should take a larger number of students than three quarters of the average of the last three years It could also be arranged that no students should be allowed to go on with their studies, who in the opinion of their teachers are not capable of qualifying at the normal time The curriculum might be modified, at any rate for a time, and certain studies not directly of use in the fighting line could be for a time omitted In all cases students should receive military recognition and be trained in dressing ambulance work etc, so as to form a corps of skilled men when needed For men who have passed their examinations in anatomy and physiology it might be possible to provide as is done in the navy where they serve as surgeon probationers on the ships for six months and then have six months at home preparing and probably passing one by one their final examinations Nobody can foretell the length of this war, and to empty our medical schools is to gamble on the chance that the war will be over within a year, or at most a year and a half The stakes are high for they are the lives and health of our forces in the field and ultimately the lives and health of our whole people.

THE SHORTAGE OF PHYSICIANS

The extent to which the shortage of physicians has gone is illustrated by an inquest on a child of 14 months who died at Westminster Hospital after an operation for adenoids The house surgeon, who was an American physician (it has been pointed out in a previous letter that it is only since the shortage was created by the war that house appointments in the hospitals of this country have been thrown open to Americans), said that owing to the shortage of physicians he was obliged to act as both anesthetist and surgeon Before the war the hospital had ten qualified anesthetists, now there were only three "Just to give you an idea of the state of affairs," said the American physician to the coroner, "I do the resident medical officer's work for two days in the surgical department, give one day to the physician's work, two days to the outdoor department, one evening to another physician's work and operations last until late in the day I also have to finish the anesthetist's work in the theater"

AN EPIDEMIC OF ACUTE NEPHRITIS IN THE ARMY

Though the general health of the expeditionary force on the European continent has been very good, a curious outbreak of acute nephritis has occurred Up to the end of last June the number reported was 1,062 Few cases were observed till February, when 72 cases were reported, 138 in March, 220 in April, 211 in May, and 326 in June. This distribution negatives one of the most generally held causes of acute nephritis—exposure to wet and cold—for during the winter with much wet weather the cases were few and the disease did not assume epidemic proportions until the weather was better The water supply was investigated without result The sources from which the patients had obtained water were extremely variable, some had been careful about boiling water, others had not. At St Bartholomew's Hospital, where some of the patients were admitted and fifty-eight cases were investigated, Prof F W Andrewes, the pathologist, found that all the glomeruli showed some evidence of inflammation, but that some were affected more than others There was extensive damage in the convoluted tubules The interstitial tissue of the kidney was edematous and infiltrated with lymphocytes and polymorphonuclears The change was apparently recent, for there was no fibrosis No micro-organisms could be found in stained sections He concluded that the appearances were those of a fairly recent subacute diffuse nephritis, and that there was nothing to suggest that it was of an unusual type. There was no evidence of the nephritis having been set up by an ascending infection or by a blood infection, the stress of which fell on the kidney In view of the association between tonsillitis and nephritis, cultures were taken from the throats of some of the patients who complained of soreness, and from some who did not In every case streptococci grew in abundance but the throats of the soldiers suffering from nephritis were bacteriologically in a better condition than the throats of civilians and the throats of the soldiers with and without nephritis were closely similar Moreover, there was no excess of streptococci in the blood As bacteriologic evidence of the origin of the disease was thus wanting, the suggestion has been made that it is due to a filter-passing ultramicroscopic organism On the whole, the disease ran a favorable course. Only one of the fifty-eight cases was fatal Most of the patients felt quite well as soon as the edema subsided though some complained of headache cough and digestive disturbances for a week or more Yet many of those who felt and looked quite well were still passing albumin, blood and casts A curious feature was the tendency to relapse the albuminuria and hematuria recurred generally without ascertainable cause. In only a few cases did chronic nephritis remain

AUSTRALIAN PHYSICIANS AND THE WAR

When it was realized that many would be called on to undertake naval and military duties resolutions were passed in every branch of the British Medical Association throughout Australia that the interests of these men should be safeguarded by their colleagues during their absence. It was agreed that no one should take advantage of the altered conditions to increase his own practice, and that patients should be induced to return to their former advisers when they returned from the war But the position has assumed an unexpected aspect The profession is becoming depleted to an alarming extent. The civil population and the troops are making calls on physicians which can scarcely be met. Over 500 physicians have joined the Australian Army Medical Corps, a further 200 are serving with the Army Medical Corps of the British Army and the Australian Navy is using a considerable number The total number of physicians in Australia is under 3 000, so that approximately 25 per cent have withdrawn from civil practice In order to meet the resulting difficulties of civil practice, it has been proposed to arrange for the temporary pooling and distribution of medical work on a topographic basis

BERLIN LETTER

BERLIN, Nov 23, 1915

Water Supply of the Troops in the Field

One of the army corps has done some remarkable work in the matter of supplying itself with water It was realized that there was an absolute necessity for an ample supply of drinking water and, if possible, to carry it to the combatants The necessary material to carry out the plan was derived partly from Germany and partly from the field of operation The engineers and their assistants were drawn from the troops, the laborers from the Belgian civil population Within a few days groups of workmen were working all along the proposed waterway Within a few weeks there had been laid 70 kilometers of water piping which in the meantime has undoubtedly extended to more than 100 kilometers The water was derived from a number of deep wells situated on the properties of manufacturing companies Some of these wells are 200 meters deep At least 5½ million liters of water are obtained daily The chemical examination has shown that the water is potable In the district occupied by this army corps there were during the summer of 1915 over 200 water stations, and if necessary, this number can easily be increased Engines of more than 350 horse power are used to furnish the necessary pressure because of the fact that there is a difference of 240 meters between the highest and the lowest well supply This enormous pressure makes it possible to secure a uniform water supply in all parts of the district irrespective of the location of the well

The Birth Rate and Infant Death Rate in German Cities

In a previous letter (THE JOURNAL, Dec 25 1915, p 2253) I discussed this question at some length referring briefly, however, to the city of Essen where there was an increase in the number of births instead of a decrease This increase was about 20 per cent and I mention it again to call attention to the fact that Essen is the home of the Krupp works and naturally one would expect a considerable increase in the population because of the additional employees imported by the Krupps In March, 1915, Essen had a population of about 345,000 and in April the population numbered 477,000 Proportionately, however, the birth rate was lower than before, although relatively there was an apparent increase In Cologne the decrease in the birth rate was less noticeable than elsewhere, the percentage being 94 2 during the period from April 4 to July 31 as compared with 100 for the same period of the previous year In Cologne and in Essen the death rate was higher during the observation period under the age of two years than in the previous year whereas in all other cities there was not only a decrease in the birth rate but also a decrease in the mortality during the first year of life In most of the cities including Berlin, Munich Leipzig and Breslau the percentage of decrease in the total number of live born children varied between 80 and 90 100 In Duisburg, Dresden, Frankfurt a M, New Cologne, Nurnberg, the birth rate during the observation period of 1915 had fallen off 20 per cent over the same period in the previous year, Nurnberg showing the greatest fall, 68 8 The decrease was less in Breslau, Konigsberg, Munich, Kiel, Dusseldorf, Berlin-Schoneberg and Hannover In Stettin the decrease in the death rate during the first year of life was so considerable as to counterbalance more than one half the decrease in the birth rate Naturally, one would expect to find a diminution in the birth rate during the war, and taking the question of birth rate and death rate among infants on the whole, the percentages are not alarming

VIENNA LETTER

VIENNA, Nov 30, 1915

The War Hospitals in Vienna

A year ago, when the most urgently wanted hospital beds were scarce, the danger of epidemics was most threatening More wounded soldiers than had been counted on returned to the capital, and with them the possibility of an outbreak of dysentery, typhoid and cholera The municipality of Vienna quickly built pavilions accommodating 1,[illegible]00 beds, but these were, of course, insufficient The chief requirement was to prevent the spread of contagion, and to house all suspicious cases so that the general public might remain free from danger This was effected by the Ministry of the Interior within a few months, and two huge modern hospitals, each for over 3,000 infectious cases, were built and stand waiting for their inmates Luckily, the hospitals are as yet nearly empty, and the expenditure, about $2,000,000, is rather more in the nature of an insurance premium than anything else, for the expected infectious cases have not made their appearance as yet But the secret of success is to be ready for every emergency, and the sanitary measures adopted for the protection of the health of the population were so efficacious that the "infection hospitals" remain nearly empty The leading idea of the new hospitals was the prevention of the spread of contagion For this purpose the hospitals are on the principle of division into a clean part and an infected part Furthermore, the separation of the patients' housings from that of the sanitary and the administrative personnel and the offices is complete Each one of the two hospitals consists of about ninety different pavilions, built partly on the system of permanent buildings, partly as half permanent barracks The group of the clean pavilions is separated by a wall from the infectious group, with a few passages in the wall These passages consist of buildings built on the system of division

The patient on coming to the hospital enters first the receiving hall If he can walk or sit he enters the first receiving hall, where he is at once bathed, his hair cut and he and his clothing carefully cleared of lice and other insects The clothing is carefully disinfected and stowed away, and the patient is given refreshment or food, as required In the receiving hall a large number of water closets are provided, for at the beginning of the war, when large numbers of dysentery patients were brought to the hospitals, the few water closets then at the disposal of the patients were instantly occupied by the poor men suffering from incessant tenesmus, and the remainder could not do otherwise but soil the receiving halls in such a manner as to drive the nurses and the servants to despair If the patient is unable to walk or sit, he is brought into the second receiving hall, where he is laid on a stretcher consisting only of metal and linen which can be thoroughly washed and sterilized Otherwise, the patient is treated on the same lines as the patient from the first receiving hall he is bathed, his hair is cut, and refreshments are given, chiefly hot tea or coffee. No patient enters the wards in an unclean state After his bath, each newcomer receives a new set of linen clothing, and is seen at once by the house physicians The dejecta are directed into special reservoirs, where they are thoroughly disinfected before they pass into the drainage system of the city Attention is paid to frequent change of linen, which so often becomes soiled by patients suffering from enteritis, dysentery or typhoid Next to each ward is a special space where soiled linen is kept in a large tank of cement, containing a 5 per cent dilution of compound solution of cresol This linen is then transported in wet condition into the laundry, which is situated in the wall between the clean and unclean part of the hospital In the kettles of the laundry the soiled linen is sterilized by steam The kettles are built in such a way that they consist of two halves, a clean one and an unclean one When the unclean part is charged with linen, the clean part is locked automatically in such a manner that it cannot be opened until the temperature of the steam has reached a certain degree insuring complete sterilization of the contents The linen passes into the clean part, which itself can be reached only from the clean side of the laundry, and then the sterilized linen is washed and ironed The same procedure takes place with everything coming from the unclean side Table utensils, knives, forks, plates, medicine bottles, bandages, instruments and papers must be sterilized before they are allowed to pass on to the clean side Doctors, nurses, servants, everybody passing from one part of the hospital to the other clean part must disinfect himself For this purpose, the passage house has been built It consists of twenty sections Each section has on the unclean side a room for undressing, then a douche and bathroom, then the person comes into another dressing room, where he finds a clean suit, and so he is allowed to pass on to the clean side of the hospital The water from the passage house is also disinfected before it enters the main drainage pipes, of course, hot water is always to be had in these twenty baths For the bodies of those who die in the hospital a special mortuary has been erected, which is accessible from outside the hospital also Thus funerals may take place from the mortuary without the hospital itself being entered

The dead bodies come into the mortuary from the unclean side. There they are put into the coffin and allowed to pass a narrow slit in the wall, all precautions being taken against spread of infection Also the people engaged in the mortuary behind the wall can leave this building only through the passage house, which is on the other end of the hospital

The clean part of the hospital comprises the gigantic kitchen, the steam laundry, the administrative barracks, and the barracks for the doctors, nurses and servants It is understood that all persons engaged in the hospital must also live in it, so as to prevent the transmission of disease to the population Naturally, the clean part comprises also the apothecary's laboratories, the storehouse for the disinfected clothing and the storehouses for all the remainder of the things required in such a huge hospital, for as soon as an article is used, it is at once replaced, as a certain quantity of every article must always be at hand Of course, the problems of heating and illumination have been solved in the most up-to-date manner Electricity is paramount, and gas stoves are the rule everywhere The number of hospitals in Austria built on the same principle is now about twenty When the war is over, it is hoped that these hospitals will be allowed to remain as public hospitals, and thus once for ever do away with the dreary problem of lack of hospital beds, of which complaint has so often been made

Arrival of the Serbian Mission of the American Red Cross in Vienna

After having stayed in Serbia for over eight months, the mission of the American Red Cross, which had worked at Belgrade, arrived safely in Vienna The victorious attack of the Austrian army surprised the American group in one of the Serbian war hospitals, and the members were treated in the most friendly and kind way by our troops They had been working all over the country, having arrived there at the time when the epidemic of typhoid was at its height The members of the mission were reluctant to give any information to the private press as regards their experiences in Serbia, but they admitted that the death rate from epidemic disease was very high in the unhappy country Not only soldiers and prisoners but also the population suffered severely from the lack of medical men and of remedies

The Nobel Prize for Dr Bárány

Docent Dr Barany the scientist and otologist, whose classes on the physiology and pathology of the labyrinth were so much frequented by the American students in Vienna, volunteered at the beginning of the European war and did active service in the famous fortress of Przemysl, where he was taken prisoner by the Russians He was awarded the Nobel prize for medicine for 1914, and in a wire to his wife in Vienna Dr Barany states that the Russian government informed him of the fact one day after it was known in Europe Dr Bárány is working as a surgeon to prisoners of war in a hospital situated at Merv, and it is hoped that the Russian government will release him and send him back. Dr Barany has continued his scientific work both while in the Austrian army and during his involuntary stay in the Asiatic hospital

PARIS LETTER

Paris, Dec. 9, 1915

The War

TRADE SCHOOLS FOR WAR CRIPPLES

I mentioned (The Journal March 13 1915 p 923, May 15, 1915 p 1671, June 26 1915, p 2152 and Sept 25, 1915, p 1124) the schools which have been organized at Lyons and at Paris (Saint Maurice) for the industrial education of war cripples Since then other schools of this character have been organized at Marseilles at Clermont-Ferrand at Havre, and in centers of special industries like Elboeuf (cloth trade), Thiers (cutlery) Cluses (national school of watch making) Oyonnax (comb making and manufacture of celluloid articles) etc. Some of these schools give instruction in quite a large number of trades Thus at the school at Marseilles instruction is given in shoe making tailoring bookkeping, clerical work stenography, typewriting copying mechanical drawing, wood and metal turning carpentry, modeling industrial design, electricity, tin smithing foundry work and coppersmithing The instructors are soldiers from the ranks of noncommissioned officers who must be good workmen Having been pronounced unfit for service or sent back from the front on account of wounds or disease, they have been assigned to these schools of physical reeducation. The pupils of these schools have followed all kinds of vocations previously, but peasants (farm workers) predominate among them A man who has lost a leg cannot very well go on cultivating the soil In a workshop, however, he may make a good carpenter or excellent shoemaker Men who have lost their right hands learn to write with the left, and some among them make very good bookkepers or mechanical draftsmen The schools for cripples, if well managed and taught, may really become a center for physical reeducation

In addition to these schools which are intended chiefly to train workmen, special sections for the training of war cripples are to be organized in the commercial and agricultural schools

THE WAR AND THE PROPHYLAXIS OF DIPHTHERIA

During its last session, the Council on Hygiene took under consideration a report from Dr H Dubief, principal medical inspector of epidemics in the department of the Seine, with regard to the prophylaxis of diphtheria on a large scale by preventive inoculation of diphtheria antitoxin Recently, in various places around Paris (Chevilly and Orly, where Belgian children are being cared for, Saint Denis and the little commune of Pavillons-sous-Bois), little outbreaks of diphtheria have appeared which because of the numbers of mobilized soldiers or refugees from the invaded territories gathered in the outskirts of Paris, may give rise to dangerous epidemics While the customary measures of disinfection were applied an extensive application of diphtheria antitoxin was also employed 2 646 preventive inoculations being made The progress of the disease was immediately checked This experience was certainly conclusive and most encouraging for the systematic organization of a campaign against diphtheria

Professor Chantemesse called the attention of the Council of Hygiene to the exaggerated fear, among the medical profession, of possible anaphylactic complications The facts reported by Dr Dubief show that such complications are very rare and not to be feared Dr Vaillard medical inspector-general of the military medical service, emphasized the necessity of making a diagnosis as early as possible in diphtheria Bacteriologic examination, which may easily be obtained without delay in the laboratories of the city of Paris or of the service of epidemics of the suburbs, is the only reliable guarantee in this respect.

OPHTHALMOLOGIC REQUIREMENTS IN THE MARINE SERVICE

Up to the present the wearing of glasses has been a disqualification for the marine service A degree of visual acuity differing according to the special branch has been required, but correction by spherical glasses has not been authorized This has appreciably hampered recruiting The minister of the marine has just modified this rule. The different branches of the service have been divided into three classes, and the present rules with regard to visual acuity are maintained only for the first class, including pilots, gunners, etc.

THE FIRST CASE OF FROZEN FOOT IN THE AUTUMN OF 1915

Last year there was much discussion on the respective shares of cold humidity and compression in the production of the troubles known as "frozen feet" Dr E. de Massary physician of the hospitals, has just shown before the Societe médicale des hopitaux de Paris a man affected with these lesions at a time during this autumn when the mercury had not gone below 12 C. (53 6 F) In this case the cold cannot be blamed This case seems to show that the theory set forth by Dr Temoin of Bourges is the correct one (The Journal, March 6 1915 p 843) and that these so-called freezings are trophic troubles produced, in subjects predisposed by previous vascular or nervous conditions by humidity or by constriction due to shrinking of shoes to bands worn too tight or to prolonged standing The lesson is a valuable one especially now when bad weather threatens a renewal of the troubles of last winter if they are not guarded against

THE ENLISTMENT OF THE 1917 CLASS

The young men belonging to the class of 1917—that is those aged 18—are to be called under the flag January 5 The *Journal Officiel* has just published the instructions of the minister of war, General Gallieni with regard to the measures to be taken in this connection Because of the youth of these soldiers and because they are called under the flag during the winter, particular attention is to be paid to their lodging, bedding dress, food, the healthfulness of their environment and the wise gradation of their military instruction and training

The rooms which they are to occupy are to contain at least 17 cubic meters (about 600 cubic feet) per man Underlinen and warm knit articles such as jerseys and socks are to be distributed in sufficient quantity During the cold season the lavatories are to be warmed after reveille The young soldiers are to receive a meat ration of not less than 400 gm a day

The instruction of the recruits is to be very carefully conducted according to a progressive system adapted to weather conditions and to individual constitutions Differences of physical vigor, aptitude and temperament of the young soldiers are to be carefully taken into account in assigning recruits to different parts of the service The total duration of instruction of the young soldiers is not necessarily to be uniform, and the dates of their assignment to active service are to be arranged in accordance with an elastic schedule

General Gallieni adds that the young men should be discouraged from frequenting cabarets and that drunkenness must be strictly suppressed Therefore it is desirable to encourage, or if necessary to arrange outside of the barracks social centers where the young soldier may pass his leisure hours in a comfortable, agreeable atmosphere, under moral and patriotic influences which will protect him against the temptations of the cabaret and other harmful influences

PERSONAL

Dr Monprofit, professor of the surgical clinic at the Ecole preparatoire de medecine et de pharmacie d'Angers, and at present head surgeon of an automobile ambulance has just been mentioned for gallantry in the *Journal Officiel* in the following terms "An eminent surgeon and head of service of indefatigable activity and devotion, in the army since the beginning of the war, although under no military obligation distinguished himself notably from Sept 25 to Oct 10, 1915 by his devoted care to the wounded a great number of whom owe their life to his surgical skill He remained at his post until he reached the point of complete exhaustion"

Dr Louis Bazy, surgeon of an automobile ambulance has been mentioned for gallantry in the following terms "Although under no military obligation he has since the beginning of the war displayed the greatest devotion in the ambulances at the front and especially during the bombardment of Furnes has given proof of remarkable professional qualities and of the highest courage" Dr Louis Bazy is a son of Dr Pierre Bazy surgeon of the hospitals of Paris and member of the Academie de medecine

Marriages

George Henry Mueller, M D, Jersey City, N J, to Miss Helene Ten Broeck of Asbury Park, N J, at New York City, October 25

James Tickell Downs, M D, Jr, Dallas, Texas, to Miss Elizabeth Florence Erich of Allentown, Pa, December 14

Bernard Oscar Harris, M D, Detroit, to Miss Ida Tilva Muscovich of Mount Clemens, Mich, December 19

Thomas Adam Lawson, M D, to Miss Mattie M Mellinger, both of Dallastown, Pa, at York, Pa, December 13

Irwin L Chipman, M D, Wilmington, Del, to Miss Marguerite E Rockey of York, Pa, December 21

Selim Walker McArthur, M D, Chicago, to Miss Jean Dean Gillett Barnes of Decatur, Ill, January 1

Julius Raymond Fernandez, M D, New Orleans, to Miss Florence Picard of Biloxi, Miss, December 7

Henry Thomas Lee, M D, Jr, to Miss Anna Chance Clark, both of New York City, December 22

William Edward Morgan, M D, Chicago, to Mrs Kate I Berry of Bradford, Pa, December 22

Richard Pearson Strong, M D, Boston, to Mrs Agnes Leas Freer of Brooklyn, January 1

Frank William Spicer, M D, to Miss Madeline Miller, both of Duluth, Minn, December 11

John Paul Ham, M D, St Louis, to Miss Elva Finch of Pana, Ill, December 25

Deaths

Henry Lowry Emilius Johnson, M D Medical Department of the George Washington University, Washington, D C, 1882, aged 57, died suddenly from heart disease, December 21, at his home in Washington He was born in Washington, Nov 11, 1858, and was graduated from the George Washington University, Department of Medicine, in 1882 He served as president of the Medical Association of the District of Columbia, and chairman of the Board of Councilors, and he was for some time a member of the Board of Medical Examiners of the Medical Society of the District He was a Fellow of the American Medical Association, and a member of its Board of Trustees from 1898 to 1908 He was chairman of the Committee on National Legislation for three terms

Dr Johnson was a member and one of the organizers of the Pan-American Medical Congress and served for three terms as vice president, for four terms as member of the International Executive Commission and for one term as member of the International Committee on Public Health, he also was a member of many other learned societies and was a frequent contributor to the medical literature Dr Johnson was elected coroner of the District of Columbia in 1889 From 1889 to 1905 he was professor of gynecology and clinical gynecology in his alma mater, he was also one of the founders and professor of gynecology in the Post-Graduate School of Medicine of the District of Columbia and one of the founders of the Washington Post-Graduate Medical School and of the Clinico-Pathological Society of the District of Columbia He was consulting gynecologist to Providence Hospital and the United States Government Hospital for the Insane and represented the United States Department of State at the International Congress of Hygiene in Berlin in 1907, the Sanitary Conference of the American Republic in Mexico in the same year, the International Medical Congress at Budapest in 1909 and served in addition as vice president of the First, Second and Third International Sanitary Conventions of American Republics

Of late years Dr Johnson has been much interested in aviation and patented in 1912, a safety aeroplane, a ship and aeroplane compass and an inclinometer Dr Johnson was a man of varied accomplishments, loyal and enthusiastic, and in his death the medical profession of the United States loses one of its most valuable working members

Rudolph August Witthaus, M D Chemist and toxicologist of world-wide eminence, aged 69, died in his apartment in New York City, December 20, from heart disease Dr Witthaus was born in New York, Aug 30, 1846, obtained his A B degree in 1867 and his A M degree in 1870, from Columbia University He then entered the University Medical College and after the full course of study and in addition, two years of work at the Sorbonne and the College de France, Paris, was graduated with the degree of M D in 1875 From 1876 to 1878, Dr Witthaus was associate professor of chemistry and physiology in his alma mater, in 1882 he was made professor of physiologic chemistry, and in 1886, professor of chemistry and physics He was also professor of chemistry and toxicology in the University of Vermont from 1878 to 1898, professor of chemistry and toxicology in the University of Buffalo from 1882 to 1888 In 1898 he was appointed professor of chemistry and physics in Cornell University Medical College, New York City, and served in that capacity until 1911 when he was made professor emeritus Dr Witthaus was a Fellow of the American Association for the Advancement of Science and a member of many of the chemical societies of this country and Europe He was the author of several standard textbooks on chemistry, notably the "Essentials of Chemistry" which appeared in 1879, "General Medical Chemistry" which appeared in 1881, "Manual of Chemistry" which was issued in 1879, and the sixth edition of which appeared in 1908, and "The Laboratory Guide in Urinalysis and Toxicology" which was published in 1886 He was also the editor of "Witthaus and Becker's Medical Jurisprudence," in four volumes, of which he wrote the introduction and the entire fourth volume which was devoted to toxicology He was also the author of a number of monographs on his specialties Dr Witthaus was one of the most noted experts in the world in cases of death supposed to be due to poison

David Williams Cheever, M D Harvard Medical School, 1858, aged 84, one of the most distinguished of the old-time surgeons of Massachusetts, died at his home in Boston December 27 Dr Cheever graduated from Harvard Uni versity in 1852 and occupied the time between graduation and his entrance to Harvard Medical School in studies in Europe. He served his alma mater continuously from 1861 when he was appointed demonstrator of anatomy In 1868 he was made adjunct professor of clinical surgery, in 1875, professor of clinical surgery, in 1882, professor in surgery and was made emeritus professor in 1893 He was appointed on the staff of the Boston City Hospital at its opening in 1864 and was made professor emeritus in 1893 He was also surgeon of the Boston Dispensary for five years and served for a few months during the Civil War as surgeon of United States Volunteers His society affiliations included the Massachusetts Medical Society of which he was president in 1888 and 1890, and the American Surgical Association of which he was president in 1889 He was an overseer of Harvard College for twelve years, a fellow of the American Academy of Arts and Sciences, and an honorary fellow of the American College of Surgeons Dr Cheever was a prolific contributor to the literature of surgery, he was the author of the "Medical and Surgical Report of the City Hospital" in five volumes and also of "Lectures in Surgery" Dr Cheever was a distinguished surgeon, a reliable physician a clear thinker, a terse writer, an impressive speaker, admirable teacher, a loyal member of the medical profession, and a good citizen

Joseph John O'Connell, M D Long Island College Hospital Brooklyn, 1887, aged 50, a Fellow of the American Medical Association, health officer of the port of New York, died at his home in the Quarantine Station at Staten Island, January 1 from myocarditis Dr O'Connell was for many years sanitary inspector in charge of the Contagious Disease Bureau of the Brooklyn Board of Health and had a large general practice in Brooklyn He made a specialty of neurology and psychiatry and was examiner in lunacy for the city of New York and alienist of the Kings County Hospital until his appointment as health officer He was also lecturer on hygiene in the New York University and lecturer on public health in the Long Island College Hospital, and ex-officio a member of the New York City Board of Health During Dr O'Connell's term of office as Health Officer of the Port of New York he effected several important changes in the quarantine service, chief among these was the construction of the Quarantine Pathological and Bacteriological Laboratory and the working out of the scheme of cleansing the persons and clothing of typhus patients to prevent the spread of the disease Dr O'Connell was also visiting physician at St Mary's Hospital and the Hospital for Mental and Nervous Diseases and surgeon to St. Mary's Female Hospital He was the author of a number of monographs on hygiene and sanitation, "The Possibility of Choleraic Infection of the Waters of New York Bay", "The World War and Maritime Commerce" and other cognate subjects

William Lincoln Ballenger, M D Bellevue Hospital Medical School 1886, aged 54, of Chicago, a Fellow of the American Medical Association, well known as a specialist on diseases of the throat, nose and ear, professor of laryngology, rhinology and otology in the College of Physicians and Surgeons, Chicago, secretary of the American Academy of Ophthalmology and Oto-Laryngology from 1899 to 1902, president from 1902 to 1904 and since that time councilor, and of the Chicago Laryngological and Otological Society, professor of otology in the Chicago Eye and Ear College, a member of the International Otological Congress, author of a standard text book on diseases of the nose, throat and ear which was published in 1900, died in Economy, Ind from diabetes, December 21

Alexander Grant Sinclair, M D College of Physicians and Surgeons in the City of New York, 1869, aged 73, a Fellow of the American Medical Association, formerly vice president of the American Medical Editors' Association, dean and emeritus professor of ophthalmology, otology laryngology and hygiene in the Memphis (Tenn) Hospital Medical College, ophthalmic and aural surgeon and laryngologist to St Joseph s Hospital and St Peter s Orphan Asylum and ophthalmic surgeon to the Old Ladies' Home and City Hospital Memphis, an ophthalmologist of Memphis since 1880, died in the Baptist Memorial Hospital in that city, December 18 from pneumonia

John Orlando Roe, M D University of Michigan, Ann Arbor, 1870, College of Physicians and Surgeons in the City of New York, 1871, aged 66, a Fellow of the American Medical Association and of the American College of Surgeons, and a member of the American Laryngological Society American Chemical Society New York Academy of Medicine and other learned societies, who had made an especial reputation in plastic surgery of the nose, one of the organizers of the Rochester (N Y) Academy of Medicine, for many years laryngologist to the Rochester General Hospital, died at his home in Rochester, December 24, from anemia

William Philip Spratling, M D College of Physicians and Surgeons, Baltimore, 1886, aged 52, from 1894 to 1908 medical superintendent of the Craig Colony for Epileptics, Sonyea, N Y, and later a practitioner of Baltimore, and professor of physiology and nervous diseases in the College of Physicians and Surgeons, Baltimore, from 1908 to 1909, formerly president of the National Association for the Study of Epilepsy, the author of a work on "Epilepsy and Its Treatment", but for the last four years a resident of Welaka, Fla , died in that place, December 22, from the effects of a gunshot wound accidentally self-inflicted while hunting

James William Rabe, M D University of Pennsylvania, Philadelphia, 1888, aged 48, a Fellow of the American Medical Association, local surgeon at Akron, Ohio, for the Baltimore and Ohio, Pittsburgh and Western, and Columbus, Hocking Valley and Toledo railroads, surgeon to the Akron City Hospital, one of the most prominent practitioners of northern Ohio, died at his home, December 16, from myocarditis

John Anderson Davis, M D University of Michigan, Ann Arbor, 1873, aged 68, a Fellow of the American Medical Association, a well-known practitioner of central Illinois, a member of the Illinois Central and Yazoo and Mississippi Valley Railway Surgeons' Association, local surgeon at Farmer City for the Illinois Central Railroad since 1899, died at his home in Farmer City, December 20, from pneumonia

Arthur W Dunning, M D College of Physicians and Surgeons, Chicago, 1885, aged 55, a Fellow of the American Medical Association and president of the Ramsey County (Minn) Medical Society in 1910, instructor in neurology in the City and County Hospital, St Paul, and neurologist to St Luke's Hospital and the St Paul Free Dispensary, died at his home in St Paul, December 21, from heart disease

Paul Neumann, M D University of Breslau, Germany, 1866, University of Greifswald, Germany, 1878, aged 71, and a veteran of the Schleswig-Holstein, Prusso-Austrian and Franco-German wars, a surgeon and colonel in the German service from 1866 to 1896, for twenty-three years a practitioner of Wichita, Kan , died at the home of his son in South Bend., Ind, December 15

Francis Marion Letcher, M D Tulane University, New Orleans, 1861, aged 78, formerly a member of the Medical Association of the State of Alabama, a surgeon in the Confederate service throughout the Civil War, for many years a practitioner of Shorter, Ala, but since his retirement a resident of Montgomery, died at his home in that city, December 11

Cary Rees Montgomery, M D Columbus (Ohio) Medical College, 1880, aged 65, formerly physician in charge of the Ohio State Penitentiary, Columbus, died in the Buena Vista Sanitarium San Francisco, from the effects of a gunshot wound of the head, self-inflicted, it is believed, with suicidal intent while despondent on account of ill health

Adolphus M Scheel, M D University of Munich, Bavaria, 1876, aged 64, a Fellow of the American Medical Association, died at his home in Belleville, Ill, December 16, from heart disease The Belleville Medical Association at a special meeting December 18 adopted resolutions recognizing the sterling worth of Dr Scheel and regretting his death

Claude Aloysius Quina, M D Tulane University, New Orleans, 1915, aged 26, intern in the Charity Hospital, New Orleans, and assistant demonstrator of pathology and bacteriology in his alma mater was lost at sea on the United Fruit Company s steamer *Marrowijne* when it foundered in a tropical hurricane in the Gulf of Mexico August 15

Frank Grant Mason, M D Rush Medical College 1890 aged 50, for eight years chief adjustor of the Pacific Mutual Life and Accident Insurance Company and North American Accident Insurance Company also a graduate in pharmacy, died at his home in Chicago, December 23, from heart disease

Denis F Ragan, M D Cooper Medical College, San Francisco, 1887, aged 54 a Fellow of the American Medical Association and a well-known practitioner of San Francisco died at his home in that city, December 19 from pernicious anemia.

Stephen Cramer Quinby, M D Louisville (Ky) Medical College, 1899, aged 47, formerly assistant to the chair of pediatrics in the Kentucky University, Louisville, and Arizona Medical Association, died in the Phoenix State Hospital, recently, as the result of a nervous breakdown

Erdmann N Brandt, M D College of Physicians and Surgeons in the City of New York, 1889, aged 48, a member of the Medical Society of the State of New York, attending physician to the Tarrytown (N Y) Hospital, died at his home in that city, December 23, from pneumonia

Emmett J Cole, M D Hahnemann Medical College, Chicago, 1896, aged 64, a member of the Illinois State Medical Society and of the State Medical Society of Wisconsin, for four years mayor of Rockton, Ill , died at his home in that city, December 22, from heart disease

James Francis Kearns, M D McGill University, Montreal, 1894, aged 52, a Fellow of the American Medical Association and at one time mayor of La Junta, Colo, and president of the La Junta City Hospital Association, died in La Junta, December 24

Thomas Joseph Leahy, M D Harvard Medical School, 1892, aged 46, formerly a Fellow of the American Medical Association, a member of the Massachusetts Medical Society, died at his home in Cambridge, Mass, December 25, from pneumonia

George Otto Heffter, M D Eclectic Medical College of the City of New York, 1887, aged 53, a practitioner of Harlem, New York City, for more than thirty years, also a pharmacist, died at his home in Harlem, December 21, from pneumonia

Bentley Silas Bourne, M D Niagara University, Buffalo, 1890, aged 49, a Fellow of the American Medical Association and for twenty-five years a practitioner of Hamburg N Y, died in Salisbury, Md, December 25, from heart disease

Falk Tennyson, M D University of Minnesota, Minneapolis, 1893, aged 48, formerly a druggist, but for the last twenty-two years a practitioner of North Minneapolis, Minn , died at his home in that city, December 17, from meningitis

William F Stokes, M D Rush Medical College, 1897 aged 47, a Fellow of the American Medical Association and one of the medical staff of the West Side Hospital, Chicago, died at his home in Chicago, December 26, from pneumonia

James Tuttle Owen, M D Tulane University, New Orleans, 1915, aged 28, of White Castle, La , was lost at sea on the United Fruit Steamer *Marrowijne* when it foundered in the Gulf of Mexico on August 15 1915

Fred F Sovereign, M D Rush Medical College, 1869, aged 69, for more than forty years a practitioner of Three Oaks, Mich , died in St Anthony's Hospital, Michigan City, Ind, December 22, from diabetes

Philip R Hengst, M D College of Physicians and Surgeons, Baltimore, 1883, aged 59, of Waco, Texas, died in his apartment in Baltimore, December 13, from cerebral hemorrhage

Willis Fremont Moore, M D Rush Medical College 1880, aged 59, for twenty-seven years a practitioner of Chattanooga, Tenn , died in a hospital in that city, December 15

Joseph A Miles, M D College of Physicians and Surgeons, Baltimore, 1907, aged 43, of Baltimore, died in Mercy Hospital in that city, December 14, from tuberculosis

Gilbert F Parks, M D Detroit College of Medicine and Surgery, 1886, aged 59, of Junction City, Ore , died in Eugene, Ore, September 26, from gallstone disease

Daniel M Craig, M D College of Physicians and Surgeons, Keokuk, Iowa, 1876, aged 62, was found dead from heart disease in his office in Garnett, Kan, December 15

Caroline Lincoln Guild, M D Hahnemann Medical College of the Pacific, San Francisco, 1888, of San Mateo, Calif , died in San Francisco, November 24

Alfred A Weber, M D University of Vienna, Austria, 1885, aged 58, died at his home in Chicago, December 19, from heart disease

John P Siegfried, M D Hahnemann Medical College, Chicago, 1888, aged 60, died at his home in Ashtabula, Ohio, December 13

Jack J Shipley (license, Texas, Act of 1907), aged 43, died at his home in Hemming, Texas, December 9, from heart disease

Emma Pownall, M D Curtis Physio-Medical Institute, Marion, Ind, 1896, died recently at her home in Bremen, Ind

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

THE ASSOCIATION'S EXHIBIT AT SAN FRANCISCO

The educational exhibit made by the American Medical Association at the Panama-Pacific Exposition is thus described in the issue of the *Pacific Pharmacist* recently received

"By the time the present number of the *Pacific Pharmacist* will be in the hands of our readers it is likely that the Panama-Pacific International Exposition will have closed its gates forever In speaking of this event one naturally recalls the words of Prospero

> Our revels now are ended These our actors,
> As I foretold you, were all spirits, and
> Are melted into air, into thin air,
> And, like the baseless fabric of this vision,
> The cloud capp'd towers, the gorgeous palaces,
> The solemn temples, the great globe itself,
> Yea, all which it inherit, shall dissolve
> And, like this insubstantial pageant faded,
> Leave not a rack behind

"To the warring nations of Europe this exposition was a grand object lesson, teaching them that 'Peace hath her victories no less renowned than those of war' While to those of us who had the time and opportunity and the intellectual training to take advantage of the thousands of treasures therein exhibited it was a priceless boon and one not likely to be repeated in the lifetime of any who now walk the earth

'There was one exhibit at the Fair that must have appealed to all philanthropists, pharmacists and physicians—that was the one the American Medical Association installed in the Educational Building It was an expose in connection with their Propaganda for Reform in Proprietary Medicines Though somewhat of a misnomer the words patent medicines are the words most generally used to designate this line of merchandise In examining this exhibit one must be struck with the fact that the most popular of these preparations are those which contain the most whiskey Standing by many of these patent medicines there was a flask of whiskey, whose alcoholic contents represented the amount contained in the proprietary preparation there exhibited To those who have acquired the liquor habit and are denied the use of liquors these patent medicines often furnish a satisfying substitute.

'The patent medicine business has been a curse to pharmacy and it is to be regretted that many pharmacists, somewhat in the nature of a tacit endorsement, have, over their own names from week to week, advertised these preparations, selling them at reduced rates as if by so doing they were conferring a favor on the public Some also have given their show windows to displays of these quack remedies, receiving in return for so doing a few bottles of the nostrums And again some of the less reputable journals have allowed the use of their columns to advertise these preparations

"The federal laws and the laws of our state have done a great deal to suppress this patent medicine evil, but which still remains to be done, and each one in his own sphere can lend a helping hand so that eventually the laws in our land will be as strict as they are in such countries as France, Germany and England

'But for the assistance of pharmacists the patent medicine business never could have attained the proportions it has today It is to be hoped that now there will be a turn in the tide and pharmacists will no longer be obliged to encumber the shelves of their pharmacies with these generally useless if not harmful preparations

"It was the intention of the writer to give a description of the most prominent patent medicines exploited in the American Medical Association's exhibit, but as the same subject is most fully explained in the literature published by that society it was thought advisable not to do so

"We would advise such of our readers who have not this literature to write to the American Medical Association, 535 North Dearborn Street, Chicago, and get copies of the following 'The Great American Fraud,' by Samuel Hopkins

Adams, 'Nostrums and Quackery,' the many pamphlets published under the name of 'Medical Fakes and Fakers,' and also their excellent work, 'New and Nonofficial Remedies'

We are told that success is everything in the eyes of the vulgar and it is useless to deny the fact that some of those who have resorted to non-ethical and unscientific pharmaceutical methods have obtained financial success, but in these days of higher education, of colleges of pharmacy and medicine, he is but a poor member who would degrade his noble calling to the level of charlatans and quacks and where the principal claim to the good will and the respect of his neighbors is the fact that he sells quack medicines at cut rate prices"

HYDROPSIN

Report of the Council on Pharmacy and Chemistry

The Council has adopted the following report and authorized its publication W A Puckner, Secretary

Hydropsin is marketed by the Ernst Bischoff Company, Inc, New York Its composition is thus described

> Hydropsin is the standardized dialysate of Digitalis purpurea Betula alba Scilla maritima Juniperis communis and Herniaria glabra or stated otherwise it is the juice of these drugs dialyzed and physiologically standardized
>
> Each fluid dram represents Digitalysatum 7 gtts and 2 gtts each of the dialysates of Betula Herniaria Juniper and Scilla'

The composition of Hydropsin must be considered essentially secret since the amounts of the several constituent drugs in a given amount of dialysate" are not disclosed The active principle of juniper is a volatile oil which is practically insoluble in water, it is difficult to believe that the 'juice' of juniper submitted to dialysis could contain any material amount of the active constituent No information is given as to the method used whereby the several dialysates are 'physiologically standardized" It therefore remains to be proved that the manufacturer of Hydropsin possesses any method whereby the dialysates of juniper (Juniperis communis), birch (Betula alba, the common European birch) and knot weed (Herniaria glabra) are so standardized The claim is made that

> Herniaria has long been recognized as one of the most valuable drugs in the treatment of dropsical affections due to cardiac impairment

On the contrary, Herniaria belongs to that large class of drugs which have been tried, found wanting and abandoned It is a very old remedy, and the claims made for it are an inheritance from the early herbalists, with whom it was very popular According to King's American Dispensatory, it was principally employed to cure *hernia* (hence its name) and to increase the flow of urine It was also said to increase the flow of bile Internally and externally, it was praised in *snake-bites* and the powdered plant was employed to kill maggots on unhealthy *sores* of horses It was reputed to 'crush' and expel calculi from the kidneys and bladder '

The Ernst Bischoff Company says that

> Betula exerts both an antiseptic and stimulating influence on the urinary passages and is particularly serviceable where a catarrhal condition of the bladder exists When combined with other diuretics as in Hydropsin the drug affords highly satisfactory results in the treatment of ascites cardiac dropsy and hydrothorax '

Birch is another drug which has been discarded Few textbooks on materia medica even mention it That it can materially affect the action of such powerful drugs as squill and digitalis is exceedingly doubtful

An unwarranted implication—that in this preparation the powerful drugs digitalis and squill have been deprived of their dangerous qualities—is the assertion

> Dialysis removing all resins and colloidals, results in better tolerance on part of sensitive patients and in more rapid absorption and elimination which in turn means early therapeutic effects and little or no fear of toxic accumulation

That removal of colloids and resins materially affects the tolerance of these drugs is improbable To claim that because of their removal there need be little or no fear of toxic accumulation" is utterly without warrant The claim that one preparation containing digitalis is less likely to produce cumulative effect than any other digitalis preparation is contradicted by a mass of evidence

It is claimed that Hydropsin affects "favorably all forms of DROPSY or Edema that are at all amenable to medical treatment" There can be no question but that squill and digitalis, or, better, either singly, used in suitable cases, may relieve dropsical effusions, but to claim that such a complex mixture as Hydropsin can favorably affect all forms of dropsy that are amenable to medical treatment is on its face unwarranted

The claim is made that

> By reason of its unusual potency and relative harmlessness Hydropsin may be employed to great advantage in all cases where it is desirable to increase the volume of urine without injury to the renal structures '

On the basis of the claimed composition, the action of Hydropsin must be essentially that of digitalis or of digitalis and squill Consequently, if it possesses "unusual potency," it cannot possess "relative harmlessness," and vice versa Neither digitalis nor squill should be employed in all cases" of nephritis, even if it is "desirable to increase the volume of urine"

The composition claimed for Hydropsin brands it as an irrational mixture in which potent drugs are combined with and more or less covered up by, others that are obsolete and inefficient The name, instead of indicating its composition, suggests diseases in which it may be thoughtlessly and indiscriminately used The claim that the danger of toxic or cumulative action has been removed, if accepted by physicians, tends to uncritical use with possible disastrous results Hydropsin is ineligible for New and Nonofficial Remedies because of conflict with Rules 1, 2, 6, 8 and 10

DIGITALYSATUM

Report of the Council on Pharmacy and Chemistry

The Council has adopted the following report and authorized its publication W A Puckner, Secretary

Digitalysatum is sold in the United States by Ernst Bischoff Company, Inc., New York The firm claims that it is a dialysate prepared from the juice of freshly gathered digitalis, containing all the active principles, and representing the fresh plant weight for weight It is said to be standardized physiologically and to contain 12 per cent alcohol Sterisol-Digitalysatum, intended for injection appears to be the "dialysate" without alcohol, diluted with equal parts of physiologic sodium chlorid solution The Council some years ago found both products ineligible for New and Nonofficial Remedies because of unwarranted therapeutic claims The preparations are still being advertised to physicians under claims which imply superiority to all other digitalis preparations For instance

> Digitalysatum is the diuretic *par excellence* in cardiac insufficiency '
>
> Digitalysatum as a diuretic and cardiac stimulant is in a class by itself being quick of action uniform in strength and well tolerated
>
> Digitalysatum differs from other forms of digitalis in these respects Digitalysatum is free from fat resins and colloids and is therefore well borne by sensitive patients—the young and the feeble—and is quickly absorbed and eliminated

The Council has elsewhere[1] expressed the conviction that tincture of digitalis produces the full therapeutic effects of digitalis, that, when properly made the tincture is as stable as any liquid preparation of digitalis now available, and that attempts to enhance the reputation of proprietary products by exaggerating the disadvantages of the official preparation are to be deplored No adequate evidence is offered of the claimed superiority of action of Digitalysatum

---

[1] Report on Proprietary D The
A M A Dec 4 1915 p 2024

By implication, the claim is made that Digitalysatum is superior to other digitalis preparations in respect to toxicity

> "Free from fat, resins and colloidals, it is always well borne and is quickly absorbed and eliminated No case of toxic accumulation (faulty elimination) has ever been reported"

That Digitalysatum is free from the dangers of toxic cumulation is highly improbable, in fact, it is inconsistent with the statement that the preparation contains all the constituents found in the fresh plant Even if instances of cumulative action have not been reported this does not prove that such cumulative action does not occur The tincture of digitalis has the systemic side-effects of digitalis in no greater degree than the various proprietary preparations Attempts to create the impression that Digitalysatum possesses all the virtues of digitalis without its chief disadvantage are to be condemned as likely to lead to incautious use of the preparation

These exaggerated claims are in the main made indirectly, but they are none the less inimical to sound therapy The Council therefore declared Digitalysatum ineligible for New and Nonofficial Remedies and voted that this report be published

STILL AT IT

"Under the deceptive heading 'Making Cod Liver Oil Palatable,' the *Charlotte Medical Journal* in its December issue prints a boost for Cord Ext Ol Morrhuae Comp (Hagee),' or, as it is generally known to the drug trade, 'Hagee's Cordial of Cod Liver Oil'

"The boost intimates that this is a preparation in which cod liver oil has in some way been rendered palatable, and then goes on to say that this is a cod liver oil product which 'has not suffered the least loss of those essential elements which make the crude oil such a high-class reconstructive'

"At first sight one might question whether a cod liver oil product which contains absolutely no cod liver oil had not suffered the loss of essential elements But a closer reading discloses a significant qualification, namely, the phrase, 'those elements which make the crude oil such a high-class reconstructive'

"The boost is misleading from beginning to end The manufacturers have not succeeded in this preparation in 'making cod liver oil palatable,' nor does their preparation in any way possess the virtues of cod liver oil These claims have again and again been refuted, but they continue to be published—at a price, but rarely in reputable medical journals"

The above is quoted from the *Weekly Bulletin* of the Department of Health of the City of New York The *Bulletin* is issued for the enlightenment of the public

Correspondence

Bloodless Operation for Hemorrhoids

To the Editor —According to an abstract of an article in the *Zentralblatt fur Chirurgie* by G Tillmann on this subject (The Journal, Nov 20, 1915, p 1860), "Tillmann seizes the well everted nodule with a long clamp and takes a mattress suture back and forth in the tissues just below the clamp The nodule is cut off close to the clamp and the raw edges are sutured together," etc

In the essential points the Tillmann operation appears to differ little, if any, from that performed for many years by Dr Samuel T Earle of Baltimore From 1902 to 1904 I saw Dr Earle perform many times an operation which he called his own "modification of Whitehead's operation" The chief advantage over the Whitehead operation was the prevention of considerable further loss of blood in patients who were already greatly weakened by months or years of bleeding hemorrhoids My observation of his work and results convinced me of the truth of every claim Dr Earle made for his operation

The operation as done by Dr Earle was, in brief, as follows The hemorrhoidal area to be removed was brought down in the usual way An ingeniously curved rectal clamp of his own design was clamped on it for about one-third the areal circumference With Hebb's specially curved scissors, also very ingeniously designed, the area thus clamped was removed With the clamp still in position, a running catgut suture was used, sewing through skin and mucous membrane and around the clamp Removing the clamp, this continuous suture was drawn taut by rapid and successive traction on the several loops, thus approximating the wound edges and arresting hemorrhage simultaneously An assistant kept the suture taut while the operator repeated the steps just described in removing the hemorrhoids About three such clampings were usually necessary It was remarkable how practically bloodless the whole operation was A detailed description of the operation will be found in the section on rectal surgery, Bryant and Buck's "Surgery," written by the originator of the operation

Richard M Nelson, M D, Atlanta, Ga

Concise Writing

To the Editor —May I preach a short sermon on concise writing The necessity for it may be found in almost any medical journal opened at random I will select as my text the last paragraph of an excellent article in a recent number of The Journal The writer states, in effect, that in fifty cases of skin disease on ordinary diet, the blood examined after meals showed little if any increase of sugar, and adds

"And since the dermatologic manifestations of diseased conditions are frequently dependent in part on internal conditions, it is felt that a further study of this problem may throw light on certain forms of dermatoses in which a high sugar content will infer a probable alimentary hyperglycemia, the proper treatment of which may help solve the all-too-frequent difficulty of the dermatologic therapy"

When I was at school a boy asked the teacher why it rained on a certain day in many successive weeks The latter replied that it was owing to the hebdomadal periodicity of the meteorological phenomena Many of us are tempted to write as that teacher talked, and some unfortunately yield to the temptation Long words are indeed impressive, and incomprehensible sentences are often judged to be very profound but skipped by the hasty reader

After a hard struggle with the sentence quoted, I have decided that the writer wished to say that, since skin diseases are often of internal origin further study may show that certain ones with hyperglycemia are due to excess of sugar in the food, the removal of which may aid the cure My translation of the sentence may not be absolutely correct If so, it is perhaps less my fault than that of the writer, who overlooked the dictum that "perspicuity is the fundamental element of style" I trust he will forgive this criticism of his diction, since I fully appreciate the importance and excellence of the work he is doing, and write this letter with no desire to be either pedantic or disagreeable, but for the benefit, as I hope, of those who write, and particularly those who read, our current medical literature

George Henry Fox, M D, New York

Editorial Sins

To the Editor —One almost fears to incur editorial displeasure by offering unsolicited criticism I like The Journal, its form and the character of its reading matter, and I may add that through the medium of its editorials I like the editor As a subscriber I feel an interest, and as a Fellow a just pride in the weekly issue Because of this any faultiness in editing is the more likely to arrest attention and convey an impression

The editorial sins to which I have reference and which are the motive of the present communication are to be found in the issue of Dec 11, 1915 On the first page in paragraph 3, line 3, "drank" should be "drunk" On page 2078, Hassin's article, paragraph 2, description of Gennerich's method, the dose of neosalvarsan to be given intraspinally as described would, I believe, be fatal There is ambiguity at the end of this paragraph, a very serious matter in connection with a therapeutic measure demanding caution and precision of technic And again, for an example of awkwardness of statement and contradictory conclusion kindly permit me to refer you to the *footnote* at the bottom of the first column on page 2081, Warden's article Even a footnote is sometimes important, and demands quite as much care as the text of which it is so frequently explanatory If some such revision as the following had been made the substance of the note might have been intelligible on first reading It has been a matter of common observation that autolysates distinctly inhibit the growth of the gonococcus Should conditions within the body and in artificial culture be at all comparable, it may be postulated (not "seen") that the presence of such antibodies may be detrimental to the continued existence of gonococci in the tissues

I hope that in calling your attention to these offenses I in turn have given none My criticism is meant in the kindliest spirit, and arises from a desire to see a splendid journal made better

Melville Silverberg, M D, San Francisco

Eczema and Formic Acid

To the Editor —In the summer, noticing that some of the dahlias in my garden failed to grow well, I went literally to the root of the matter and found there the troublesome inset, *Aphis radicis* with *Formica flava* the yellow ant encouraging its depredations I crushed numbers of the ants with my fingers, noticing at the time the pungent odor which they emitted, which was of course due to formic acid, especially abundant in this species

At about this time my hands began to present symptoms of eczema—itching (much aggravated after the taking of salted food) and formation of vesicles, with subsequent thickening and cracking of the skin I did not associate these symptoms with the handling of the ants until they had recurred under the same circumstances for several seasons I now avoid the annual attack of pseudo-eczema by avoiding the yellow ants

The facts appear to me to suggest the dependence of genuine cases of eczema on the presence of formic acid since this acid has been detected by various chemists in the perspiration E M B T, New Bedford, Mass

Queries and Minor Notes

Anonymous Communications and queries on postal cards will not be noticed Every letter must contain the writer s name and address but these will be omitted on request

SENDING NARCOTICS BY MAIL

To the Editor —In your answer to R D Z (Queries and Minor Notes The Journal Dec 18 1915 p 2187) you are correct as to the provisions of the Harrison act in re delivery of narcotics by U S mail but I believe that you will find that the postal regulations specifically prohibit the shipment of these drugs by mail

H E Goetz M D Knoxville Tenn

To the Editor —R D Z asks in regard to delivery of drugs by mail I suppose he means narcotic drugs It is not a violation of the Harrison law as you say but is a violation of another forbidding the transportation of narcotic drugs in any form or amount by mail

M T Clark M D Temple Okla

Answer —Several similar letters have been received, questioning the validity of the statement in The Journal for December 18 and asserting that while the Harrison Narcotic Law itself did not prohibit the shipping of drugs by mail, such a prohibition was to be found in the federal postal laws An examination of these laws will show that the general shipping of poisons by mail is prohibited But this prohibition in no way applies to the shipment of drugs and anesthetics for bona fide medicinal purposes The postal laws and regulations specifically provide that physicians dentists and veterinary surgeons may send drugs by mail if properly identified such as by placing on the package the name of the physician the contents of the package the purpose for which it is intended, and that it is a poisonous substance A druggist can fill a physician's prescription and mail the drug to the designated *patient, provided he complies* with the requirements as above set forth

HOW TO RETURN A MANUSCRIPT—TWO EXAMPLES

There is *no more* difficult task for an editor than that of returning manuscripts he is an adept who can do it without giving offense. The following is an example of the way a Chinese editor did it We have already printed this communication, but reproduce it again for the sake of comparison

> Most venerable brother of the sun and the moon, your slave *bows at your feet* I kiss the earth before you I implore your permission to speak and to live. Your most venerated manuscript passed before our eyes and we were ravished by it With fear and trembling I return it If I ventured to publish it the emperor would order me to take this jewel as a model and never depart from it or *have the audacity to publish anything inferior to it* But my long experience of letters has taught me that such pearls can be produced once, and once only in ten thousand years So I must return it I entreat you to forgive me I am at your feet the slave of slaves '

While we doubt if an Occidental will ever be able to compete with an Oriental in this matter we have one editor in this country who comes very near equaling our Chinese editor The recipient of the letter printed below forwarded it with his manuscript when submitting it to The Journal

> My Dear Doctor
> 'If you knew how many times I had read your paper on ——— and how much thought I had given it you would appreciate the regret that it gives me to return it to you without publishing it
> It is an excellent story well told and contains an immense amount of food for thought but I am foregoing the pleasure of printing it because it is not a story that would appeal to that class of people who look to ——— for their inspiration
> 'I am sorry that I kept the paper so long but I know that any medical journal will be eager to publish it, and it is as good now as it was when I first got it indeed it is a paper that will grow better and for many years will not lose its thought breeding and inspiring character
> 'Regretting that the paper is not for the columns of ——— and regretting also that I have kept you waiting so long I am
> Sincerely yours
> ———————"

REFERENCES TO ARTICLES ON SYPHILIS OF THE STOMACH

To the Editor —Please refer me to literature on gumma of the stomach L F Carlton M D, Tampa, Fla

Answer —The following are references on syphilis of the stomach

- Jores Demonstration von gummoser Magensyphilis, *Verhandl d deutsch path Gesellsch* 1907 Jena 1908 xi 319
- Meyer, J S Syphilitic Tumors of the Stomach *Weekly Bull St Louis Med Soc* 1910 iv 134
- Arkin A Acquired Syphilitic Ulcers of the Bowel *Tr Chicago Path Soc* 1912 viii No 7
- Villacian L and Bazan F A C Syphilis of the Stomach *Semana med* June 6, 1912
- Meyers J Syphilis of Stomach *New York State Jour Med* September 1912
- Meyers J Syphilis of Stomach, *Albany Med Ann* October 1912 abstr The Journal *Nov 9 1912 p 1742*
- Morgan W G Syphilis of Stomach Report of cases *Am Jour Med Sc* March 1915
- Einhorn M Syphilis of Stomach Report of cases, *Med Rec* New York March 13 1915
- Downes W A. and LeWald, L T Syphilis of the Stomach Report of Eight Cases with Roentgenologic Findings The Journal May 29 1915 p 1824
- Einhorn M Syphilis of the Stomach *Arch f Verdauungskr* June, 1915
- Muhlmann E Syphilitic Contracted Stomach *Deutsch med Wchnschr* June 17 1915 abstr The Journal Aug 7 1915 p 564
- Smithies F Syphilis of the Stomach A Clinical Study of Twenty Six Instances of Dyspepsia Associated with Positive Wassermann Noguchi Reactions The Journal Aug 14 1915 p 572
- Fischer L. C. Syphilis of Stomach and Intestines Report of Cases *Georgia Med Assn Jour* September 1915

Examine Teachers for Suspected Tuberculosis —The department of health of New York City, in cooperation with the city superintendent of schools has devised a plan by which teachers suspected of having tuberculosis will be examined by physicians of the department of health Principals of schools are requested to report teachers who are in such physical condition as to be unable properly to do their work and whom there is reason to regard as probable subjects of tuberculosis A woman physician will be detailed to examine women teachers if they so desire.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Alabama Montgomery, Jan 11 Sec, Dr W H Sanders, Montgomery

California Sacramento, Jan 11 Sec, Dr Charles B Pinkham, Room 527 Forum Bldg, Sacramento

District of Columbia Washington, Jan 11 Sec, Dr Edgar P Copeland, The Rockingham, Washington

Illinois Chicago, Jan 13 15 Sec, Dr C St Clair Drake, Springfield

Indiana Indianapolis, Jan 11 Sec., Dr W T Gott, 84 State House, Indianapolis

Iowa Des Moines, Feb 8 10 Sec, Dr G H Sumner, State House, Des Moines

Kansas Topeka, Feb 8 Sec, Dr H A Dykes, Lebanon

New Mexico Santa Fe, Jan 10 Sec, Dr W E Kaser, East Las Vegas

New York Albany, Buffalo, New York and Syracuse, Jan 25 28 Chief, Examinations Division, Mr Harlan H Horner, State Education Bldg, Albany

Oklahoma Oklahoma City, Jan 11 12 Sec, Dr R V Smith, 502 Daniel Bldg, Tulsa

Pennsylvania Philadelphia, Jan 18 20 Sec, Mr Nathan C Schaeffer, Harrisburg

South Dakota Pierre, Jan 11 Sec, Dr P B Jenkins, Waubay

Vermont Montpelier, Feb 8 11 Sec, Dr W Scott Nay, Underhill

Wisconsin Madison, Jan 11 Sec, Dr J M Dodd, 220 E Second St, Ashland

Medical School Mergers

The amalgamation of medical institutions, a process which has been going on in America for more than a decade, is happily still in progress Nearly all of our independent medical colleges have either formed a union with a university or have become defunct, the principal exceptions being a few of the larger detached schools in the eastern part of the United States It is only natural that the latter should be seeking an honorable amalgamation with universities, realizing, as they must, that the remaining independent medical schools are being put to a great disadvantage as the result of previous mergers in other parts of the country, and also in consequence of the trend toward higher educational standards

The project to merge the Medico-Chirurgical College of Philadelphia with the University of Pennsylvania, the former to become the graduate department of the latter, is being seriously considered This union would be in line with the trend of modern progress in medical education elsewhere throughout the country It is hoped by those advocating the merger that ultimately the Philadelphia Polyclinic and the Jefferson Medical Colleges will also be consolidated with the University of Pennsylvania Such a triple amalgamation would increase the efficiency of the individual units, and is therefore altogether desirable That there are still more so-called undergraduate colleges than are required in this country, in view of the changed conditions of medical practice, is undoubted On the other hand, larger opportunities for graduate instruction with ample modern laboratory equipment and clinical facilities are still needed This deficiency, however, has been recognized by certain institutions, notably Harvard University, the Johns Hopkins University, the University of Minnesota and the Tulane University of Louisiana These institutions have organized departments of graduate instruction, but there is room for additional schools if properly organized, well equipped and well officered

In order to obtain the best educational results, however, these courses demand a separate physical plant, made up of a hospital with ample clinical facilities and appropriate laboratories, in which they are to be conducted, for the convenience and economy of time, of the graduate students It is an encouraging sign of the times that the process of amalgamation of faculties and equipment in the United States bids fair to be carried to a logical conclusion With a proper combination of forces and activities throughout the country, America should, within a short period of time, lead the world in both undergraduate and postgraduate education

Maine July Report

Dr Frank W Searle, secretary of the Maine State Board of Registration of Medicine, reports the written examination held at Augusta, July 6-7, 1915 The total number of subjects examined in was 10, total number of questions asked, 90, percentage required to pass, 75 The total number of candidates examined was 42, of whom 41 passed and 1 failed The following colleges were represented

College	Year Grad	Per Cent
PASSED		
Bowdoin Medical School	(1915) 80, 80, 81, 81, 81, 82, 83, 83, 84, 84, 85, 85, 85, 86, 86, 86, 87, 87, 88, 89,	92
College of Physicians and Surgeons, Baltimore	(1914)	83
University of Maryland	(1914)	91
Boston University	(1903) 82, (1915) 83,	86
Coll of Phys and Surgs, Boston	(1913) 76, (1915) 81, 81, 82,	83
Harvard University	(191[illegible]) 87, (1914) 79, (1915) 87, 87,	89
Tufts College Medical School	(1914)	83
Dartmouth Medical School	(1914)	86
University of Pennsylvania	(1913)	85
University of Vermont	(1882)	80
National School of Medicine, Mexico	(1910)	79
FAILED		
Eastern University*	(1913)	57

* This college was officially reported as not recognized by the Maryland State Board of Medical Examiners

Massachusetts July Report

Dr Walter P Bowers, secretary of the Massachusetts Board of Registration in Medicine, reports the oral, practical and written examination held at Boston, July 13-15, 1915 The total number of subjects examined in was 13, total number of questions asked, 70, percentage required to pass, 75 The total number of candidates examined was 156, of whom 128 passed, including 13 osteopaths, and 26 failed, including 8 osteopaths One candidate's papers were laid on the table and one was not rated on account of false oath The following colleges were represented

College	Year Grad	Per Cent
PASSED		
Georgetown University	(1915)	80 6
Atlanta Medical College	(1915)	78 3
University of Kansas	(1912)	78 7
Tulane University of Louisiana	(1910)	78 2
Bowdoin Medical School	(1915) 75 7,	79
Baltimore Medical College	(1898)	75
College of Phys and Surgs, Baltimore	(1886) 77 5, (1913) 76 5, (1915)	76 4
Johns Hopkins University	(1913)	82 2
Boston University	(1903) 75 (1915) 75, 76 1, 76 8, 77 2, 77 6, 78 5, 79, 80 4, 81 6,	82 4
College of Phys and Surgs, Boston	(1915)	76 6
Harvard University	(1912) 78 4, (1913) 83 2, (1914) 76 5, 77 1, (1915) 75, 75 3, 75 8, 76 5, 76 5, 78, 79 1, 79 1, 79 7, 79 7, 80 1, 80 2, 80 3, 80 5, 80 5, 81 5, 81 7 82 6, 82 7, 82 8, 83, 83 1, 83 5, 84 1,	86 9
Tufts College Medical School	(1911) 75 6, (1914) 76, 76 7, 77 5 (1915) 75, 75, 75, 75, 75 2, 75 3, 75 7, 76 2, 76 3, 76 4, 76 5, 76 6, 76 6, 76 8, 77 1, 77 2, 77 5, 77 7, 77 9, 78 6, 78 6, 78 7, 78 9 79, 79, 79 5, 79 7, 79 8, 80 1, 80 1, 80 1, 80 5, 80 7, 80 7, 80 9, 81, 81 1, 81 1, 82,	82 1
St Louis University	(1913)	78 1
Columbia University, College of Phys and Surgs	(1915)	79 6
Long Island College Hospital	(1914)	80
New York Homeo Med Coll and Flower Hosp	(1915)	78 3
University and Bellevue Hospital Med Coll	(1908)	78 6
University of Buffalo	(1907)	76 6
Starling Ohio Medical College	(1910)	82 2
Western Reserve University	(1909)	81 2
Jefferson Medical College	(1914)	76 2
Temple University	(1913)	81
University of Pennsylvania	(1899)	75
Woman's Medical College of Pa	(1910) 78 5, (1915)	83 4
Memphis Hospital Medical College	(1911)	75
University of Vermont	(1906) 76 2, (1908) 75 4, (1912)	77
University of Toronto	(1907)	75
Catholic University of Louvain	(1894)	80 2
FAILED		
Georgetown University	(1913)	72 2
Hahnemann Med Coll and Hosp, Chicago	(1901)	62 8
Bowdoin Medical School	(1915)	72 7
College of Phys and Surgs Baltimore	(1915)	73 1
Maryland Coll of Eclectic Med and Surg*	(1914) 56,	65 1
Maryland Medical College	(1913) 64 8, 66 2,	69 6
College of Phys and Surgs, Boston	(1911)	69 7
Tufts College Medical School	(1914) 71 7, (1915) 70 7, 71 7,	72 6
University of the South	(1902)	65
University of West Tennessee	(1913)	67 2
Laval University	(1915)	71
Montreal School of Med and Surg	(1915)	65 6

* This college was officially reported as not recognized by the Maryland State Board of Medical Examiners

New Mexico July Report

Dr W E Kaser, secretary of the New Mexico Board of Health and Medical Examiners, reports the written examination held at Santa Fe, July 12, 1915 The total number of subjects examined in was 13, total number of questions asked 100, percentage required to pass, 75 Twelve candidates were licensed on credentials and 1 through reciprocity The following colleges were represented

PASSED

College	Year Grad	Total No Licensed
University of Colorado	(1914) (1915)	2
Atlanta Medical College	(1914)	1
Northwestern University	(1913)	1
Kansas Medical College Topeka	(1907)	1
Kentucky School of Medicine	(1893)	1
Louisville Medical College	(1901)	1
Washington University	(1913)	1
Miami Medical College	(1903)	1
Jefferson Medical College	(1904)	1
University of Pittsburgh	(1909)	1
McGill University	(1881)	1

LICENSED THROUGH RECIPROCITY

College	Year Grad	Reciprocity with
Memphis Hospital Medical College	(1904)	Oklahoma

Book Notices

The Baby's First Two Years By Richard M Smith M D Assistant in Pediatrics Harvard Medical School Cloth Price 75 cents Pp 156 with illustrations Boston Houghton Mifflin Company 1915

Although the author claims no originality for the material in his book, it is unique in arrangement and expression of thought. The book is divided into three parts, the first giving rules for the care and feeding of infants, the second consisting of general suggestions which, the author states, may be modified to meet the requirements of the individual baby, and the third containing recipes and charts Included in the second part is a calendar illustrating the typical day of a healthy baby Such a calendar is especially valuable in its indication of the regularity and system which should mark the care of the infant

The author considers proprietary baby foods as of two kinds "those to be made with milk and those to be made without milk ' The former, he says, are expensive additions to modified cow's milk and are not necessary The latter do not furnish a satisfactory food On the whole, the use of these preparations should be limited to the rare instances when an infant cannot digest cow's milk and they should then be used only with the advice of the physician

Though brief, the text of the book omits nothing which the inquiring mother might wish to or should know The book is a practical one, and worthy of recommendation to the intelligent

Diseases of Infants and Children By Henry Dwight Chapin A M M D Professor of Diseases of Children New York Post Graduate Medical School and Hospital and Godfrey Roger Pisek M D Sc D Professor of Diseases of Children New York Post Graduate Medical School and Hospital Third Edition Cloth Price, $3 25 net Pp 578 with 179 illustrations. New York William Wood & Co 1915

In this edition the authors have revised several portions of their book Among the new topics added are albumin milk feeding the Schick test and the luetin test. Matter of minor importance, such as the rarer diseases and various laboratory tests, is printed in small type, such material forms about one tenth of the text Much of it is laboratory diagnostic technic which appears more detailed in books devoted wholly to this subject The chapter given to therapeutics is especially sane, and indicates that the authors have kept abreast of recent progress in treatment The illustrations especially the colored plates, are excellent, but the plate showing a comparison of various types of indicanuria seems somewhat far fetched, inasmuch as numerous skeptics are inclined to question the interpretation of any indican test As a text for students or a guide to the practitioner, this book may be advised for its brevity, directness and general up to dateness

Medicolegal

Damages Allowed for Injuries Causing Convulsions

(Sherwood vs Crescent Creamery Co (Minn) 153 N W R 525)

The Supreme Court of Minnesota says that the plaintiff, a young woman stenographer earning $50 a month, was injured, in April, 1914, by an automobile truck belonging to the defendant. It was not claimed that the evidence did not justify a finding that the defendant was negligent, or that there was any negligence on the plaintiff's part The principal contention on this appeal was that the damages awarded by the jury, $6,750, were excessive. Before the accident, the plaintiff was a strong, healthy girl After the accident, she had frequently recurring fainting spells, attacks that were called by her expert "epileptoid," and by the experts for the defendant, 'hysterical convulsions " That they were genuine, and not feigned, attacks, was not doubted by the defendant's experts

The plaintiff had not been able to go out alone, and had to be watched the entire time She was pale and had lost weight The causal connection between the accident and her condition at the time of the trial was proved In short, the evidence justified a substantial verdict But there was no organic trouble, and the evidence as to the probable duration of the plaintiff's condition was that she would entirely recover

The plaintiff's expert testified that the prognosis would be fair, and the probabilities were that she would get over the attacks As to when, the witness said that this would depend on her regaining her lost weight, and her general health, and that the end of this litigation would be an important factor in her recovery The defendant's experts agreed on this

The court was unable to find any evidence that would warrant a finding that the plaintiff's injuries were permanent, or that her condition, serious at it was, would last for any length of time in the future Under these circumstances, the court thinks that $5,000 would be ample compensation, and that the evidence would not sustain any verdict in excess of that sum Wherefore a consent within ten days to a reduction of the verdict was required, under the penalty that otherwise a new trial would be granted

Not Entitled to Recover for Cystitis

(Moses vs St Barnabas Hospital (Minn) 153 N W R 128)

The Supreme Court of Minnesota affirms an order denying the plaintiff a new trial after this action, brought by her to recover damages for injuries alleged to have been sustained by her while a patient in the defendant hospital, was dismissed at the close of her case The court says that the only question demanding attention was whether any evidence was presented which would justify submitting to the jury the issue of the competency, qualifications, or negligence of the nurses who were assigned to the care of the plaintiff This court's examination brought to light no such evidence The contention of the plaintiff was that she contracted cystitis by the negligent use by the nurse of an unclean catheter While the evidence showed that a catheter was employed in her treatment, by two of the nurses, there was no evidence whatever that it was unclean or not in proper condition for use No witness gave any testimony tending directly or indirectly to establish that fact The opinion of the physician, called by the plaintiff, that in his opinion the plaintiff's trouble was occasioned by the use of a "dirty catheter,' was not founded on any evidence in the case, and was the naked conclusion of the witness Cystitis does not necessarily follow from the use of a catheter, it may be contracted in other ways, and no inference could be indulged in this case that its use was the cause of the plantiff's infection, or that it was unclean and not in proper condition for use Wherefore the court holds that the evidence failed to sustain the allegations of incompetence or negligence, and that the action was properly dismissed

Society Proceedings

NORTH SIDE BRANCH OF THE CHICAGO MEDICAL SOCIETY

Regular meeting, held Nov 12, 1915

The President, Dr Clarence L Wheaton, in the Chair

Auricular Fibrillation

Dr. James B Herrick The ordinary train of events in the undiseased heart, whether the beat be slow or rapid, is for the auricles to contract before each ventricular systole, an appreciable interval of about 0 15 second intervening, during which time the stimulus is traveling the bundle of His and its branches Under certain conditions, the auricle remains distended in diastole, its power of contracting as a unit has gone, its muscular action is represented by numerous quiverings or twitchings of fibers and small patches of muscle This is auricular fibrillation So far as ability to propel blood through the atrioventricular orifice is concerned the auricle is paretic the blood passes these openings by virtue of gravity, the *vis a tergo* in the veins, the suction effect of ventricular diastole, etc The signs to be sought for in auricular fibrillation are 1 A rapid action of the ventricle—this is generally found 2 An absolute irregularity in the time of the beats 3 An irregularity also as to the strength of the beats as revealed by the pulse, the cardiac impulse or the cardiac sounds 4 Without instruments of precision it is practically impossible to show the absence of auricular systole and the presence of the twitching of the auricular musculature, the fourth characteristic feature 5 Not only is there the absence of the auricular wave in the phlebogram with a venous pulse of the ventricular or positive type, but at times a true tricuspid incompetence with the ventricular venous pulse still more pronounced A positive venous pulse may be present with tricuspid incompetence, when the auricle is not in fibrillation 6 The absence of auricular systole will sometimes materially alter the murmurs of valvular disease, the particularly striking example being the change of the murmur of mitral stenosis from its presystolic that is auricular systolic location, to a place early in diastole 7 One is reasonably safe in saying that a plain irregularity of the heart, when the beat is over 120 to the minute, is due to auricular fibrillation Flutter and tachycardia are rhythmic Extrasystoles generally disappear as the heart becomes as rapid as 120 When the heart is comparatively slow, as under the influence of digitalis, the beats may seem equal in strength and in time between beats, or they may resemble extrasystole 8 With extrasystole an increased rapidity of the heart beat will generally cause extrasystole to disappear Sometimes in patients undergoing examination, the increased rapidity of the heart will cause the irregularity to disappear wholly or partly With auricular fibrillation the opposite is the rule The heart, unless steadied by treatment, is fit to do its work in only a poor way Evidences of decompensation are more or less in evidence 9 Often there is a combination of cardiac irregularities I have seen in the terminal incompetence of mitral stenosis a most pronounced fibrillation, with numerous extrasystoles, with little runs, like tachycardia Instances of heart block with auricular fibrillation are also recorded Perhaps 50 per cent of cardiac irregularities are due to auricular fibrillation No single lesion has been found postmortem to explain it, though acute and chronic inflammatory and degenerative changes are described at times in the sino-auricular node, and in various places in the auricles As strikingly seen in mitral stenosis, in which valve lesion auricular fibrillation is a frequent event, the auricle is often greatly distended, and a condition of fatigue may, perhaps, be assumed as having been present In some instances an auricle that is anatomically without flaw has been found The prognosis has been generally held to be bad, though the condition may last for years, even ten or more By contrast, extrasystole has been viewed as more benign and of good prognosis Fibrillation of the auricle has been known to occur, and then permanently disappear, as in pneumonia The prognosis must be based on the size of the heart, the valvular, pericardial or myocardial disease in evidence, the presence or absence of dyspnea, cyanosis, engorged liver, etc., as indicating cardiac incompetency Another point to be kept in mind is that *many cases of fibrillation are peculiarly amenable to the good influences of digitalis, and from this point of view the condition is favorable.*

Treatment of Auricular Fibrillation

Dr Robert H Babcock Excepting in certain acute infections, when there may be a paroxysmal auricular fibrillation, when fibrillation of the auricles is fully established, the heart's rhythm rarely if ever becomes normal In this class of cases digitalis achieves its most brilliant results Digitalis impedes the transmission of the incoordinate impulses of the auricles through the conducting fibers to the ventricles, therefore, it slows the contractions of the ventricle, and permits a longer period of diastole It also probably affects the musculature of the ventricles in such a way as to strengthen the ventricular contractions, thereby improving the force of the pulse, regulating it to some extent and overcoming in a measure the dilatation which is a result of the auricular fibrillations This type of arrhythmia is encountered most commonly in connection with mitral disease Three indications are to be met in these cases (1) relief of the insomnia and dyspnea, (2) relief or lessening of visceral engorgement, and (3) slowing down and strengthening the heart's action The first is best accomplished by giving a hypodermic injection of morphin, heroin or codein The second indication is met by the use of a cathartic, say, 10 grains of blue mass with one-half grain of hyoscyamus at night followed the next morning by a saline So long as the visceral congestion continues, the cathartic should be given daily The third indication is met by the use of digitalis or strophanthus Regarding the Carrell diet in these cases, limiting the patient to 20 ounces of milk a day, I customarily give more than 20 ounces, namely, 6 or 8 ounces every three hours during the day, for the first two or three days

As to digitalis, when prompt effect is desired, it should be given intravenously Very close watch must be kept for the first signs of digitalis intoxication, and in this the pulse is a very reliable guide The heart should be examined every day When the patient is allowed to get up and resume his ordinary occupation, digitalis should be continued in carefully supervised dosage Regarding strophanthus, one may administer a milligram, a whole cubic centimeter or a half cubic centimeter intravenously The great drawback to the use of this drug, however, is that it is exceedingly irritating, and if any of it leaks into the tissues it produces much pain and serious infiltration of the tissues It cannot be given intramuscularly as may the digitalis One must not throw strophanthus into the vein of a patient who has been taking digitalis until sufficient time has elapsed for the elimination of the digitalis There is positive danger of the heart being brought to an arrest by the strophanthus These patients must be taught to adjust their habits of life to the ability of the heart to endure strain The prognosis in many of these cases is good, but if the effects of digitalis or strophanthus are badly borne, or the action promptly lost, the prognosis is bad, and the most that can be done is to rely on such means as will tend to overcome the unpleasant effects of the back pressure and greatly restrict the patient's habits as to exercise, diet, etc.

DISCUSSION

Dr. Frank Billings Auricular fibrillation is the most common irregularity of the heart One can separate the other irregularities from it often, even without an instrument Extrasystole is sometimes associated with auricular fibrillation, but more often not Heart block is not difficult to recognize, and while heart block may be associated, it is rare, unless it is brought about by digitalis But the time has come in diagnosis of heart diseases, when one must

Society Proceedings

NORTH SIDE BRANCH OF THE CHICAGO MEDICAL SOCIETY

Regular meeting, held Nov 12, 1915

The President, Dr. Clarence L Wheaton, in the Chair

Auricular Fibrillation

Dr James B Herrick The ordinary train of events in the undiseased heart, whether the beat be slow or rapid, is for the auricles to contract before each ventricular systole, an appreciable interval of about 0 15 second intervening, during which time the stimulus is traveling the bundle of His and its branches Under certain conditions, the auricle remains distended in diastole, its power of contracting as a unit has gone, its muscular action is represented by numerous quiverings or twitchings of fibers and small patches of muscle This is auricular fibrillation So far as ability to propel blood through the atrioventricular orifice is concerned the auricle is paretic the blood passes these openings by virtue of gravity, the *vis a tergo* in the veins, the suction effect of ventricular diastole, etc The signs to be sought for in auricular fibrillation are 1 A rapid action of the ventricle—this is generally found 2 An absolute irregularity in the time of the beats 3 An irregularity also as to the strength of the beats as revealed by the pulse, the cardiac impulse or the cardiac sounds 4 Without instruments of precision it is practically impossible to show the absence of auricular systole and the presence of the twitching of the auricular musculature, the fourth characteristic feature 5 Not only is there the absence of the auricular wave in the phlebogram with a venous pulse of the ventricular or positive type, but at times a true tricuspid incompetence with the ventricular venous pulse still more pronounced A positive venous pulse may be present with tricuspid incompetence, when the auricle is not in fibrillation 6 The absence of auricular systole will sometimes materially alter the murmurs of valvular disease, the particularly striking example being the change of the murmur of mitral stenosis from its presystolic that is auricular systolic location, to a place early in diastole 7 One is reasonably safe in saying that a plain irregularity of the heart, when the beat is over 120 to the minute, is due to auricular fibrillation Flutter and tachycardia are rhythmic Extrasystoles generally disappear as the heart becomes as rapid as 120 When the heart is comparatively slow, as under the influence of digitalis, the beats may seem equal in strength and in time between beats, or they may resemble extrasystole 8 With extrasystole an increased rapidity of the heart beat will generally cause extrasystole to disappear Sometimes in patients undergoing examination, the increased rapidity of the heart will cause the irregularity to disappear wholly or partly With auricular fibrillation the opposite is the rule The heart, unless steadied by treatment, is fit to do its work in only a poor way Evidences of decompensation are more or less in evidence 9 Often there is a combination of cardiac irregularities I have seen in the terminal incompetence of mitral stenosis a most pronounced fibrillation, with numerous extrasystoles, with little runs, like tachycardia Instances of heart block with auricular fibrillation are also recorded Perhaps 50 per cent of cardiac irregularities are due to auricular fibrillation No single lesion has been found postmortem to explain it, though acute and chronic inflammatory and degenerative changes are described at times in the sino-auricular node, and in various places in the auricles As strikingly seen in mitral stenosis, in which valve lesion auricular fibrillation is a frequent event, the auricle is often greatly distended, and a condition of fatigue may, perhaps, be assumed as having been present In some instances an auricle that is anatomically without flaw has been found The prognosis has been generally held to be bad, though the condition may last for years, even ten or more By contrast, extrasystole has been viewed as more benign and of good prognosis Fibrillation of the auricle has been known to occur, and then permanently disappear, as in pneumonia The prognosis must be based on the size of the heart, the valvular, pericardial or myocardial disease in evidence, the presence or absence of dyspnea, cyanosis, engorged liver, etc., as indicating cardiac incompetency Another point to be kept in mind is that many cases of fibrillation are peculiarly amenable to the good influences of digitalis, and from this point of view the condition is favorable.

Treatment of Auricular Fibrillation

Dr Robert H Babcock Excepting in certain acute infections, when there may be a paroxysmal auricular fibrillation when fibrillation of the auricles is fully established, the heart's rhythm rarely if ever becomes normal In this class of cases digitalis achieves its most brilliant results Digitalis impedes the transmission of the incoordinate impulses of the auricles through the conducting fibers to the ventricles, therefore, it slows the contractions of the ventricle, and permits a longer period of diastole It also probably affects the musculature of the ventricles in such a way as to strengthen the ventricular contractions, thereby improving the force of the pulse, regulating it to some extent, and overcoming in a measure the dilatation which is a result of the auricular fibrillations This type of arrhythmia is encountered most commonly in connection with mitral disease Three indications are to be met in these cases (1) relief of the insomnia and dyspnea, (2) relief or lessening of visceral engorgement, and (3) slowing down and strengthening the heart's action The first is best accomplished by giving a hypodermic injection of morphin, heroin or codein The second indication is met by the use of a cathartic, say, 10 grains of blue mass with one-half grain of hyoscyamus at night, followed the next morning by a saline So long as the visceral congestion continues, the cathartic should be given daily The third indication is met by the use of digitalis or strophanthus Regarding the Carrell diet in these cases, limiting the patient to 20 ounces of milk a day, I customarily give more than 20 ounces, namely, 6 or 8 ounces every three hours during the day, for the first two or three days

As to digitalis, when prompt effect is desired, it should be given intravenously Very close watch must be kept for the first signs of digitalis intoxication, and in this the pulse is a very reliable guide The heart should be examined every day When the patient is allowed to get up and resume his ordinary occupation, digitalis should be continued in carefully supervised dosage Regarding strophanthus, one may administer a milligram, a whole cubic centimeter or a half cubic centimeter intravenously The great drawback to the use of this drug, however, is that it is exceedingly irritating, and if any of it leaks into the tissues it produces much pain and serious infiltration of the tissues It cannot be given intramuscularly as may the digitalis One must not throw strophanthus into the vein of a patient who has been taking digitalis until sufficient time has elapsed for the elimination of the digitalis There is positive danger of the heart being brought to an arrest by the strophanthus These patients must be taught to adjust their habits of life to the ability of the heart to endure strain The prognosis in many of these cases is good, but if the effects of digitalis or strophanthus are badly borne, or the action promptly lost, the prognosis is bad, and the most that can be done is to rely on such means as will tend to overcome the unpleasant effects of the back pressure and greatly restrict the patient's habits as to exercise, diet, etc

DISCUSSION

Dr Frank Billings Auricular fibrillation is the most common irregularity of the heart. One can separate the other irregularities from it often, even without an instrument Extrasystole is sometimes associated with auricular fibrillation, but more often not Heart block is not difficult to recognize, and while heart block may be associated, it is rare, unless it is brought about by digitalis But the time has come in diagnosis of heart diseases, when one must

treated One patient has remained well for four years, the other was not benefited

Results of Operations for Exophthalmic Goiter

Dr. E Starr Judd and Dr J D Pemberton, Rochester, Minn Because it is difficult to say when a case of exophthalmic goiter has been cured, cases in which operation was performed more than five years ago (1909) have been selected for this study Our report embraces 121 unselected cases which we were able to trace About 46 per cent of the patients have remained entirely well and show no evidence of their old symptoms, about 23 per cent were practically cured, although a slight trace of their old trouble persists or temporarily returns under severe nervous strains, etc , between 4 and 5 per cent were somewhat improved by operative interference while about 5 per cent reported that they had received no benefit We ligated the superior thyroid vessels in some patients simply as a preliminary measure, and advised them to return in three weeks for thyroidectomy , in some instances so much improvement followed this procedure that they did not come back, we observed however, that late recurrence of symptoms is more frequent among these patients than among those who have had resections of the thyroid Frequently in mild cases, ligation of the superior thyroid vessels is all that is necessary Several patients, who had a resection of the gland, have since reported the birth of normal children, one woman has borne three normal children Seven of the twenty-one patients who died were never able to leave the hospital, and were extremely toxic at the time of operation The remaining fourteen patients lived an average of 14 1 months after operation, and death probably ensued from irreparable damage in the heart, liver and kidneys due to continued intoxication A more general education of the public, resulting in earlier interference in these cases, will greatly increase the percentage of cures

Sarcomas in Unusual Situations

Dr Hubert A Royster, Raleigh N C I have had six cases in which sarcomas were discovered in unusual locations (1) a fibrosarcoma of the sheaths of the musculospiral and median nerves, (2) a rhabdomyosarcoma of the trapezius muscle, (3) a fibrosarcoma of the breast, (4) a single-celled sarcoma of the abdominal wall, (5) a lymphangiosarcoma of the coccygeal region, and (6) a myxosarcoma of the buttocks

Subcutaneous Dermic Fistula in the Treatment of Ascites

Dr. Walter C G Kirchner, St Louis My cases were not especially well suited for a successful trial of the Oberst method, but in one of the four cases a satisfactory result was obtained there being no return of the ascites In this case the ascites resulted from alcoholic cirrhosis of the liver The operations were readily performed under local anesthesia In principle, the operation consists in the employment of a pedunculated portion of the skin from the abdomen, which is buried subcutaneously in such a manner that a flap projects into the abdominal cavity Thus no substance foreign to the body is used in providing continuous drainage

(To be continued)

NEW YORK ACADEMY OF MEDICINE

Meeting held Dec 2 1915

The President, Dr. Walter B James, in the Chair

Acidosis, with Special Reference to That Occurring in the Diseases of Childhood

Dr John Howland and Dr W McKim Marriott Baltimore It has been assumed that the acetone bodies are very abnormal and that their presence signifies an unusual complication in the course of disease whereas in many instances we may liken the mere presence of acetonuria to fever, for it occurs in most of the infectious diseases of childhood with much the same regularity that fever does In order to understand how acidosis may be brought about, it is necessary to consider the method by which the body maintains its equilibrium in which there is a preponderance of bases over acids To guard against the deleterious influence of acids formed or introduced into the body, a most efficient mechanism is available which it is only necessary to consider from the standpoint of the blood since this serves to regulate the reaction for the entire body Acids displace sodium bicarbonate from the blood and set carbon dioxid free The excess of carbon dioxid is removed by the increased pulmonary ventilation, leaving a neutral salt to be removed by the kidneys, which remove acid phosphate and save the base The third means of defense is afforded by the proteins and is dependent on their amphoteric character These three means act synchronously and reside in the blood itself A further means of defense is the ability of the body to neutralize acids by the production of alkali in the form of ammonia The means by which acidosis is recognized are first examination of the urine or the blood for the presence of abnormal acids and second search for evidence of unusual activity of the body's defenses, determining the amount of ammonia excreted in the urine and its relation to the total nitrogen excretion A high ammonia coefficient arouses the suspicion of acidosis but unless this can be confirmed in some other way it should not be regarded as conclusive

The methods which we have made use of are chiefly the determination of the carbon dioxid in the alveolar air Sellard's test the alkaline tolerance, and the determination of the hydrogen ion concentration of the serum and the oxygen combining power of the hemoglobin We have considered acidosis in connection with recurrent vomiting and the diarrheal diseases more particularly since the conditions are more obscure and less understood than in diabetes and have found that infants with severe diarrhea may die with no evidences of acidosis whatever This was true of the majority On the other hand a number of infants with severe diarrhea developed evidence of acidosis, and the majority of these died The clinical evidence of acidosis is hyperpnea When there has been deep labored breathing without cyanosis we have always been able to obtain other proof of acidosis We believe that we have been the first to estimate the carbon dioxid tension in the alveolar air in infants and we have been able to do this by a modification of the Plesch method making it applicable for use with infants The carbon dioxid tension of the alveolar air in normal infants varies between 35 and 42 mm while in acidosis it is less than this frequently between 15 and 25 mm , and with these infants the Sellards test is positive There is also a great tolerance for alkali so that relatively large amounts of sodium bicarbonate must be administered in order to change the reaction of the urine In all the severe cases the reaction of the blood by the indicator method has shown a distinct shifting of the reaction in the direction of acidity

Finally evidence has been obtained of an alteration in the reaction of the blood by determining a great lowering of the combining power of the hemoglobin There is one striking evidence of acidosis of infancy and that is a diminution of the output of urine Complete anuria is by no means unusual This seems to offer an explanation of the accumulation of acids The recognition of acidosis in older children is not difficult, the character of the respiration being usually sufficient to arrest one's attention and one or two relatively simple laboratory tests will quickly determine the question Older children react promptly and sometimes permanently to alkali therapy It may be possible to stop the clinical and laboratory evidence of acidosis in infants but they usually die For this reason we should give infants with severe diarrhea from the beginning sodium bicarbonate in sufficient quantities to render the urine alkaline and to keep it so The alkalies may be given by mouth by rectum subcutaneously or intravenously The intravenous method is the method of choice when rapidity of action is desired and with acidosis rapidity of action is always desirable If facilities for intravenous injection are not at hand the injection may be made subcutaneously A 4 per cent solution is employed for the intravenous and a 2 per cent for subcutaneous use the amount to be gaged to meet individual indications peutic standpoint I was disappointed that he did not enter further into the treatment of these cases, for instance, nothing was said of the use of autogenous vaccines

Dr Frank Billings While we are satisfied that the complex of symptoms that we call exophthalmic goiter is due to overthyroid secretion, we really, so far as knowledge of the cause of the disease or the diminution of its incidence are concerned, are not much better off now than before We ought to study a little more systematically what causes the goiter We can say that there is a glandular involvement of the thyroid that is compensatory It occurs in the boy and girl, about the time of puberty, when the physical needs of the body call for more secretion That physiologic enlargement we recognize as compensatory Then in more recent years we have recognized a real hyperplasia, that is, an infected gland occurring in the course of infectious diseases, generally Hyperplasia occurs in acute or chronic focal infections, and out of this hyperplasia come these symptoms We also know that certain environment and certain drinking water produce it It is possible of course, that on top of the gland enlargement physiologically, there may occur a hyperplasia In discussing this question, one man will say, 'This is a medical goiter", another will say, "This is a surgical goiter" There are no such terms They are both diseases of the thyroid The symptoms of exophthalmic goiter represent simply the reaction of the body We are not going ahead when we spend so much time in discussing the technic of the medical management or the technic of the surgical management of these cases We want to get at the cause

Dr. Coleman G Buford There is nothing that will clear up this question except experimental work We have been discussing goiter from too many angles All of these cases of enlargement, if not outside of the neoplasm proper, are merely different steps in the pathogenesis What helps to prove this? The very fact that in so many of the cases the facial expression changes, and changes in the size of the thyroid gland take place after the administration of the thyroid extract alone We have been watching the goiters of children They come on about the time that tonsils and adenoids have had their damaging cumulative effect on the system The symptoms manifested in these cases are nothing more than toxic

---

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION

Twenty Eighth Annual Meeting held at Cincinnati, Dec 13 15, 1915

The President, Dr Bacon Saunders, Fort Worth, Texas, in the Chair

High Versus Low Degrees of Heat as Palliative Treatment for Advanced Cases of Cancer of Uterus

Dr Herman J Boldt, New York The galvanocautery treatment, originated by the late Dr Byrne of Brooklyn, gives more satisfactory results in such cases than any other method of treatment Radium and Roentgen rays have not been so satisfactory It has been proved that patients receiving galvanocautery treatment live longer and are free from distressing symptoms It is comparatively safe when used in cases in which the disease has not advanced so far that the bladder and rectum will probably be injured by a thorough application Dr Percy asserts that the application of lower degrees of heat for a longer time has a deeper destructive influence I gave his method a thorough test for two years, but did not see in any case a superior clinical advantage A careful study of the tissues from a woman who died eight days subsequent to the heat application for two and a half hours showed it to be a fallacy Directly beyond the cauterized zone were actively proliferating cancer cells The application of heat so low as not to char the tissues is of no more value in hindering cell growth in the depth of the tissues than are high degrees of heat The technic advocated by me has the advantage of being able to do the cauterizing in from twenty to thirty minutes, and I believe that the destruction of tissues is carried deeper, leaving only a shell of the cervico-uterine structures The degree of heat employed by me is much higher than that advocated by Byrne I keep the electrode at a cherry-red heat while it remains in contact with the tissue, and when a fairly thick layer of carbonized structure has been produced, more current is turned on to raise the heat of the dome electrode to a light red The electrode must be taken off during the process of burning to determine how much tissue has been burnt out, and to burn off the layer of carbon accumulated on the electrode It requires from one to two weeks for the carbonization eschar to be thrown off, and then there is a slight sanguineous oozing which may be controlled by the use of acetone, or a strip of styptic gauze may be packed into the cavity But what is still better is to resort to the desiccation process by the slow heat method *The heat should not be used more than from twenty to thirty minutes, and no carbonization must be caused* One must be careful not to use too much pressure with the electrode, since, if the first treatment has been properly done, only a shell of cervico-uterine structure is left Opening of the abdomen is not necessary for the second cauterization or rather desiccation For additional after-treatment, radium should be used Ligating the internal iliac arteries, as originally advised by Pryor, and oophorectomy as a preliminary step, are good procedures Ligation of the arteries lessens the bleeding and the discharge in cases of inoperable carcinoma of the uterus

DISCUSSION

Dr Thomas S Cullen, Baltimore In cases in which we have used heat and got rid of the sloughing area of the growth, we have been amazed to see the inoperable growth contract down until one could move it from side to side, this was not due to the marked diminution of the cancer, but in getting rid of the suppurating area, and there is not the same absorption in the broad ligament

Dr J Wesley Bovée, Washington, D C I have used galvanocauterization of the cervix for cancer for several years I have devised a water cooled speculum for this purpose, but it is not so satisfactory as Percy's Since 1898, in my radical operations, I have been ligating the internal iliacs with the ovarian vessels, and I have never operated in a case yet in which I did not have to contend vigorously with bleeding which came from the branches of the inferior hemorrhoidals If the internal iliacs are cut off, the ovarian vessels are still left above, which connect with the uterine vessels, and a blood supply is obtained just as though the internal iliacs had not been touched

Dr Charles H Mayo, Rochester, Minn Our method for many years has been to do a hysterectomy in the early cases of cancer of the cervix, and in the late cases, with large fungating growths filling the upper vaginal vault, we have used heat We have dealt with the local condition and have advised the use of acetone to stop hemorrhages We have brought about palliation in seventy cases, and of this number we subjected twenty patients to hysterectomy later

Dr J Shelton Horsley, Richmond, Va Vaccination might be included with the Percy cautery treatment in cases of cancer, and good temporary results obtained A few cases have been reported in which there have been apparent cures of adenocarcinoma of the uterus after vaccine treatment

Dr Charles R Robins, Richmond, Va After I began the use of the Percy method I adopted the procedure of having a microscopic examination made of the tissue before and after the application of the cautery, and in cases which were not too far advanced, there was an absence of cancer cells in the uterus after the treatment

Dr C Jeff Miller, New Orleans I have used white heat, dull heat, and in a limited number of cases the Percy cautery, but for the last nineteen months I have been using radium in the advanced cases I have treated twenty-six cases thus far with radium, and as a primary measure I believe radium is the best treatment for the advanced cases

Dr W P Carr, Washington, D C There is a great difference in cancer Some cases are much more amenable to heat, radium and the Roentgen ray than others I have had two cases of inoperable carcinoma of the uterus so

treated One patient has remained well for four years, the other was not benefited

Results of Operations for Exophthalmic Goiter

Dr E Starr Judd and **Dr J D Pemberton**, Rochester, Minn Because it is difficult to say when a case of exophthalmic goiter has been cured, cases in which operation was performed more than five years ago (1909) have been selected for this study Our report embraces 121 unselected cases which we were able to trace About 46 per cent of the patients have remained entirely well and show no evidence of their old symptoms, about 23 per cent were practically cured, although a slight trace of their old trouble persists or temporarily returns under severe nervous strains, etc , between 4 and 5 per cent were somewhat improved by operative interference while about 5 per cent reported that they had received no benefit We ligated the superior thyroid vessels in some patients simply as a preliminary measure, and advised them to return in three weeks for thyroidectomy, in some instances so much improvement followed this procedure that they did not come back, we observed, however, that late recurrence of symptoms is more frequent among these patients than among those who have had resections of the thyroid Frequently, in mild cases, ligation of the superior thyroid vessels is all that is necessary Several patients, who had a resection of the gland, have since reported the birth of normal children, one woman has borne three normal children Seven of the twenty-one patients who died were never able to leave the hospital, and were extremely toxic at the time of operation The remaining fourteen patients lived an average of 14 1 months after operation, and death probably ensued from irreparable damage in the heart, liver and kidneys due to continued intoxication A more general education of the public, resulting in earlier interference in these cases, will greatly increase the percentage of cures

Sarcomas in Unusual Situations

Dr Hubert A Royster Raleigh, N C I have had six cases in which sarcomas were discovered in unusual locations (1) a fibrosarcoma of the sheaths of the musculospiral and median nerves, (2) a rhabdomyosarcoma of the trapezius muscle, (3) a fibrosarcoma of the breast, (4) a single-celled sarcoma of the abdominal wall, (5) a lymphangiosarcoma of the coccygeal region, and (6) a myxosarcoma of the buttocks

Subcutaneous Dermic Fistula in the Treatment of Ascites

Dr. Walter C G Kirchner, St Louis My cases were not especially well suited for a successful trial of the Oberst method, but in one of the four cases a satisfactory result was obtained there being no return of the ascites In this case the ascites resulted from alcoholic cirrhosis of the liver The operations were readily performed under local anesthesia In principle, the operation consists in the employment of a pedunculated portion of the skin from the abdomen, which is buried subcutaneously in such a manner that a flap projects into the abdominal cavity Thus no substance foreign to the body is used in providing continuous drainage

(To be continued)

NEW YORK ACADEMY OF MEDICINE

Meeting held Dec 2, 1915

The President, Dr Walter B James, in the Chair

Acidosis, with Special Reference to That Occurring in the Diseases of Childhood

Dr John Howland and **Dr. W McKim Marriott**, Baltimore It has been assumed that the acetone bodies are very abnormal and that their presence signifies an unusual complication in the course of disease whereas in many instances we may liken the mere presence of acetonuria to fever for it occurs in most of the infectious diseases of childhood with much the same regularity that fever does In order to understand how acidosis may be brought about it is necessary to consider the method by which the body maintains its equilibrium in which there is a preponderance of bases over acids To guard against the deleterious influence of acids formed or introduced into the body, a most efficient mechanism is available, which it is only necessary to consider from the standpoint of the blood since this serves to regulate the reaction for the entire body Acids displace sodium bicarbonate from the blood and set carbon dioxid free The excess of carbon dioxid is removed by the increased pulmonary ventilation, leaving a neutral salt to be removed by the kidneys, which remove acid phosphate and save the base The third means of defense is afforded by the proteins and is dependent on their amphoteric character These three means act synchronously and reside in the blood itself A further means of defense is the ability of the body to neutralize acids by the production of alkali in the form of ammonia The means by which acidosis is recognized are first examination of the urine or the blood for the presence of abnormal acids and second search for evidence of unusual activity of the body's defenses, determining the amount of ammonia excreted in the urine and its relation to the total nitrogen excretion A high ammonia coefficient arouses the suspicion of acidosis but unless this can be confirmed in some other way it should not be regarded as conclusive

The methods which we have made use of are chiefly the determination of the carbon dioxid in the alveolar air Sellard's test the alkaline tolerance and the determination of the hydrogen ion concentration of the serum and the oxygen combining power of the hemoglobin We have considered acidosis in connection with recurrent vomiting and the diarrheal diseases more particularly since the conditions are more obscure and less understood than in diabetes, and have found that infants with severe diarrhea may die with no evidences of acidosis whatever This was true of the majority On the other hand, a number of infants with severe diarrhea developed evidence of acidosis and the majority of these died The clinical evidence of acidosis is hyperpnea When there has been deep labored breathing without cyanosis we have always been able to obtain other proof of acidosis We believe that we have been the first to estimate the carbon dioxid tension in the alveolar air in infants, and we have been able to do this by a modification of the Plesch method making it applicable for use with infants The carbon dioxid tension of the alveolar air in normal infants varies between 35 and 42 mm while in acidosis it is less than this, frequently between 15 and 25 mm and with these infants the Sellards test is positive. There is also a great tolerance for alkali, so that relatively large amounts of sodium bicarbonate must be administered in order to change the reaction of the urine In all the severe cases the reaction of the blood by the indicator method has shown a distinct shifting of the reaction in the direction of acidity

Finally evidence has been obtained of an alteration in the reaction of the blood by determining a great lowering of the combining power of the hemoglobin There is one striking evidence of acidosis of infancy and that is a diminution of the output of urine Complete anuria is by no means unusual This seems to offer an explanation of the accumulation of acids The recognition of acidosis in older children is not difficult, the character of the respiration being usually sufficient to arrest one s attention and one or two relatively simple laboratory tests will quickly determine the question Older children react promptly and sometimes permanently to alkali therapy It may be possible to stop the clinical and laboratory evidence of acidosis in infants but they usually die For this reason we should give infants with severe diarrhea from the beginning sodium bicarbonate in sufficient quantities to render the urine alkaline and to keep it so The alkalies may be given by mouth by rectum, subcutaneously or intravenously The intravenous method is the method of choice when rapidity of action is desired and with acidosis rapidity of action is always desirable If facilities for intravenous injection are not at hand, the injection may be made subcutaneously A 4 per cent solution is employed for the intravenous and a 2 per cent for subcutaneous use the amount to be gaged to meet individual indications peutic standpoint I was disappointed that he did not enter further into the treatment of these cases, for instance, nothing was said of the use of autogenous vaccines

Dr **Frank Billings** While we are satisfied that the complex of symptoms that we call exophthalmic goiter is due to overthyroid secretion, we really, so far as knowledge of the cause of the disease or the diminution of its incidence are concerned, are not much better off now than before We ought to study a little more systematically what causes the goiter We can say that there is a glandular involvement of the thyroid that is compensatory It occurs in the boy and girl, about the time of puberty, when the physical needs of the body call for more secretion That physiologic enlargement we recognize as compensatory Then in more recent years we have recognized a real hyperplasia, that is, an infected gland occurring in the course of infectious diseases, generally Hyperplasia occurs in acute or chronic focal infections, and out of this hyperplasia come these symptoms We also know that certain environment and certain drinking water produce it It is possible, of course, that on top of the gland enlargement, physiologically, there may occur a hyperplasia In discussing this question, one man will say, 'This is a medical goiter", another will say, 'This is a surgical goiter" There are no such terms They are both diseases of the thyroid The symptoms of exophthalmic goiter represent simply the reaction of the body We are not going ahead when we spend so much time in discussing the technic of the medical management or the technic of the surgical management of these cases We want to get at the cause

Dr **Coleman G Buford** There is nothing that will clear up this question except experimental work We have been discussing goiter from too many angles All of these cases of enlargement, if not outside of the neoplasm proper, are merely different steps in the pathogenesis What helps to prove this? The very fact that in so many of the cases the facial expression changes, and changes in the size of the thyroid gland take place after the administration of the thyroid extract alone We have been watching the goiters of children They come on about the time that tonsils and adenoids have had their damaging cumulative effect on the system The symptoms manifested in these cases are nothing more than toxic

---

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION

Twenty Eighth Annual Meeting, held at Cincinnati, Dec 13 15, 1915

The President, Dr **Bacon Saunders**, Fort Worth, Texas, in the Chair

High Versus Low Degrees of Heat as Palliative Treatment for Advanced Cases of Cancer of Uterus

Dr **Herman J Boldt**, New York The galvanocautery treatment, originated by the late Dr Byrne of Brooklyn, gives more satisfactory results in such cases than any other method of treatment Radium and Roentgen rays have not been so satisfactory It has been proved that patients receiving galvanocautery treatment live longer and are free from distressing symptoms It is comparatively safe when used in cases in which the disease has not advanced so far that the bladder and rectum will probably be injured by a thorough application Dr Percy asserts that the application of lower degrees of heat for a longer time has a deeper destructive influence I gave his method a thorough test for two years, but did not see in any case a superior clinical advantage A careful study of the tissues from a woman who died eight days subsequent to the heat application for two and a half hours showed it to be a fallacy Directly beyond the cauterized zone were actively proliferating cancer cells The application of heat so low as not to char the tissues is of no more value in hindering cell growth in the depth of the tissues than are high degrees of heat The technic advocated by me has the advantage of being able to do the cauterizing in from twenty to thirty minutes, and I believe that the destruction of tissues is carried deeper, leaving only a shell of the cervico-uterine structures The degree of heat employed by me is much higher than that advocated by Byrne I keep the electrode at a cherry-red heat while it remains in contact with the tissue, and when a fairly thick layer of carbonized structure has been produced, more current is turned on to raise the heat of the dome electrode to a light red The electrode must be taken off during the process of burning to determine how much tissue has been burnt out, and to burn off the layer of carbon accumulated on the electrode It requires from one to two weeks for the carbonization eschar to be thrown off, and then there is a slight sanguineous oozing which may be controlled by the use of acetone, or a strip of styptic gauze may be packed into the cavity But what is still better is to resort to the desiccation process by the slow heat method The heat should not be used more than from twenty to thirty minutes, and no carbonization must be caused One must be careful not to use too much pressure with the electrode, since, if the first treatment has been properly done, only a shell of cervico-uterine structure is left Opening of the abdomen is not necessary for the second cauterization or rather desiccation For additional after-treatment, radium should be used Ligating the internal iliac arteries, as originally advised by Pryor, and oophorectomy as a preliminary step, are good procedures Ligation of the arteries lessens the bleeding and the discharge in cases of inoperable carcinoma of the uterus

DISCUSSION

Dr **Thomas S Cullen**, Baltimore In cases in which we have used heat and got rid of the sloughing area of the growth, we have been amazed to see the inoperable growth contract down until one could move it from side to side, this was not due to the marked diminution of the cancer, but in getting rid of the suppurating area, and there is not the same absorption in the broad ligament

Dr **J Wesley Bovée**, Washington, D C I have used galvanocauterization of the cervix for cancer for several years I have devised a water cooled speculum for this purpose, but it is not so satisfactory as Percy's Since 1898, in my radical operations, I have been ligating the internal iliacs with the ovarian vessels, and I have never operated in a case yet in which I did not have to contend vigorously with bleeding which came from the branches of the inferior hemorrhoidals If the internal iliacs are cut off, the ovarian vessels are still left above, which connect with the uterine vessels, and a blood supply is obtained just as though the internal iliacs had not been touched

Dr **Charles H Mayo**, Rochester, Minn Our method for many years has been to do a hysterectomy in the early cases of cancer of the cervix, and in the late cases, with large fungating growths filling the upper vaginal vault, we have used heat We have dealt with the local condition and have advised the use of acetone to stop hemorrhages We have brought about palliation in seventy cases, and of this number we subjected twenty patients to hysterectomy later

Dr **J Shelton Horsley**, Richmond, Va Vaccination might be included with the Percy cautery treatment in cases of cancer, and good temporary results obtained A few cases have been reported in which there have been apparent cures of adenocarcinoma of the uterus after vaccine treatment

Dr **Charles R Robins**, Richmond, Va After I began the use of the Percy method I adopted the procedure of having a microscopic examination made of the tissue before and after the application of the cautery, and in cases which were not too far advanced, there was an absence of cancer cells in the uterus after the treatment.

Dr **C Jeff Miller**, New Orleans I have used white heat, dull heat, and in a limited number of cases the Percy cautery, but for the last nineteen months I have been using radium in the advanced cases I have treated twenty-six cases thus far with radium, and as a primary measure I believe radium is the best treatment for the advanced cases

Dr **W P Carr**, Washington, D C There is a great difference in cancer Some cases are much more amenable to heat, radium and the Roentgen ray than others I have had two cases of inoperable carcinoma of the uterus so

treated One patient has remained well for four years, the other was not benefited

Results of Operations for Exophthalmic Goiter

Dr E Starr Judd and Dr J D Pemberton, Rochester, Minn Because it is difficult to say when a case of exophthalmic goiter has been cured, cases in which operation was performed more than five years ago (1909) have been selected for this study Our report embraces 121 unselected cases which we were able to trace About 46 per cent of the patients have remained entirely well and show no evidence of their old symptoms, about 23 per cent were practically cured, although a slight trace of their old trouble persists or temporarily returns under severe nervous strains, etc , between 4 and 5 per cent were somewhat improved by operative interference while about 5 per cent reported that they had received no benefit We ligated the superior thyroid vessels in some patients simply as a preliminary measure, and advised them to return in three weeks for thyroidectomy, in some instances so much improvement followed this procedure that they did not come back, we observed, however, that late recurrence of symptoms is more frequent among these patients than among those who have had resections of the thyroid Frequently, in mild cases, ligation of the superior thyroid vessels is all that is necessary Several patients who had a resection of the gland, have since reported the birth of normal children, one woman has borne three normal children Seven of the twenty-one patients who died were never able to leave the hospital, and were extremely toxic at the time of operation The remaining fourteen patients lived an average of 14 1 months after operation, and death probably ensued from irreparable damage in the heart, liver and kidneys due to continued intoxication A more general education of the public, resulting in earlier interference in these cases, will greatly increase the percentage of cures

Sarcomas in Unusual Situations

Dr Hubert A Royster, Raleigh, N C I have had six cases in which sarcomas were discovered in unusual locations (1) a fibrosarcoma of the sheaths of the musculospiral and median nerves, (2) a rhabdomyosarcoma of the trapezius muscle, (3) a fibrosarcoma of the breast, (4) a single-celled sarcoma of the abdominal wall, (5) a lymphangiosarcoma of the coccygeal region, and (6) a myxosarcoma of the buttocks

Subcutaneous Dermic Fistula in the Treatment of Ascites

Dr. Walter C G Kirchner, St Louis My cases were not especially well suited for a successful trial of the Oberst method, but in one of the four cases a satisfactory result was obtained, there being no return of the ascites In this case the ascites resulted from alcoholic cirrhosis of the liver The operations were readily performed under local anesthesia In principle, the operation consists in the employment of a pedunculated portion of the skin from the abdomen, which is buried subcutaneously in such a manner that a flap projects into the abdominal cavity Thus no substance foreign to the body is used in providing continuous drainage

(To be continued)

NEW YORK ACADEMY OF MEDICINE

Meeting held Dec 2 1915

The President, Dr Walter B James, in the Chair

Acidosis, with Special Reference to That Occurring in the Diseases of Childhood

Dr John Howland and Dr W McKim Marriott Baltimore It has been assumed that the acetone bodies are very abnormal and that their presence signifies an unusual complication in the course of disease whereas, in many instances, we may liken the mere presence of acetonuria to fever for it occurs in most of the infectious diseases of childhood with much the same regularity that fever does In order to understand how acidosis may be brought about it is necessary to consider the method by which the body maintains its equilibrium in which there is a preponderance of bases over acids To guard against the deleterious influence of acids formed or introduced into the body, a most efficient mechanism is available which it is only necessary to consider from the standpoint of the blood since this serves to regulate the reaction for the entire body Acids displace sodium bicarbonate from the blood and set carbon dioxid free The excess of carbon dioxid is removed by the increased pulmonary ventilation, leaving a neutral salt to be removed by the kidneys, which remove acid phosphate and save the base The third means of defense is afforded by the proteins, and is dependent on their amphoteric character These three means act synchronously and reside in the blood itself A further means of defense is the ability of the body to neutralize acids by the production of alkali in the form of ammonia The means by which acidosis is recognized are first examination of the urine or the blood for the presence of abnormal acids and second search for evidence of unusual activity of the body's defenses, determining the amount of ammonia excreted in the urine and its relation to the total nitrogen excretion A high ammonia coefficient arouses the suspicion of acidosis but unless this can be confirmed in some other way it should not be regarded as conclusive

The methods which we have made use of are chiefly the determination of the carbon dioxid in the alveolar air Sellard's test the alkaline tolerance, and the determination of the hydrogen ion concentration of the serum and the oxygen combining power of the hemoglobin We have considered acidosis in connection with recurrent vomiting and the diarrheal diseases more particularly since the conditions are more obscure and less understood than in diabetes, and have found that infants with severe diarrhea may die with no evidences of acidosis whatever This was true of the majority On the other hand a number of infants with severe diarrhea developed evidence of acidosis, and the majority of these died The clinical evidence of acidosis is hyperpnea When there has been deep labored breathing without cyanosis we have always been able to obtain other proof of acidosis We believe that we have been the first to estimate the carbon dioxid tension in the alveolar air in infants, and we have been able to do this by a modification of the Plesch method making it applicable for use with infants The carbon dioxid tension of the alveolar air in normal infants varies between 35 and 42 mm, while in acidosis it is less than this frequently between 15 and 25 mm, and with these infants the Sellards test is positive There is also a great tolerance for alkali, so that relatively large amounts of sodium bicarbonate must be administered in order to change the reaction of the urine In all the severe cases the reaction of the blood by the indicator method has shown a distinct shifting of the reaction in the direction of acidity

Finally evidence has been obtained of an alteration in the reaction of the blood by determining a great lowering of the combining power of the hemoglobin There is one striking evidence of acidosis of infancy, and that is a diminution of the output of urine Complete anuria is by no means unusual This seems to offer an explanation of the accumulation of acids The recognition of acidosis in older children is not difficult, the character of the respiration being usually sufficient to arrest one s attention and one or two relatively simple laboratory tests will quickly determine the question Older children react promptly and sometimes permanently to alkali therapy It may be possible to stop the clinical and laboratory evidence of acidosis in infants but they usually die For this reason we should give infants with severe diarrhea from the beginning sodium bicarbonate in sufficient quantities to render the urine alkaline and to keep it so The alkalies may be given by mouth, by rectum subcutaneously or intravenously The intravenous method is the method of choice when rapidity of action is desired and with acidosis rapidity of action is always desirable If facilities for intravenous injection are not at hand, the injection may be made subcutaneously A 4 per cent solution is employed for the intravenous and a 2 per cent for subcutaneous use the amount to be gaged to meet individual indications

DISCUSSION

Dr Donald D Van Slyke In acidosis accumulation of acids occurs from the failure of elimination to keep pace with the production of acids It may result, as in diabetes, from an overwhelmingly rapid production of acids, which even a normal eliminating mechanism cannot keep up with, or it may, as in some cases of nephritis, result from failure of the eliminating mechanism to dispose of even the amount of acid formed in ordinary metabolism Whatever the cause, the direct result is the lowering of the bicarbonate content of the body fluids, since retention of any of the metabolic acids other than carbonic acid results in the decomposition of an equivalent amount of bicarbonate in the fluids Because of this fact, the determination of the bicarbonate content of the blood plasma is the most direct method for detecting the presence and severity of an acidosis According to our experience and to the *definition, the severity of acidosis is proportional* to the fall below *normal of the bicarbonate content of* the plasma The methods which are of real value in the detection of acidosis are either those for direct estimation of the bicarbonate content of the blood or the indirect estimation of its value The direct determination of the plasma bicarbonate is simply made by acidifying a known volume of plasma, usually 1 c c, and measuring the amount of carbon dioxid set free In the normal adult we obtained carbon dioxid gas equal to from 55 to 75 volume per cent of the plasma from which it is set free When this falls to 30 acidosis is becoming dangerous When it falls as low as 20 per cent, it seems nearly certain to be fatal The alveolar carbon dioxid is an indirect measure of the carbon dioxid content of the plasma In order to keep the hydrogen ion concentration of the plasma at its proper level the respiratory center maintains the ratio between the amount of carbon dioxid in the form of free carbonic acid and bicarbonate, respectively, 1 20 Thus a normal plasma contains about 60 volume per cent of bicarbonate carbon dioxid, and 3 volume per cent of carbon dioxid dissolved as free carbonic acid If acids accumulate sufficient to reduce the bicarbonate carbon dioxid to 30 per cent, respiration and circulation are so stimulated that the carbonic acid carbon dioxid is reduced to 1 5 per cent The concentration of carbon dioxid gas in alveolar air is in accordance with the solubility of carbon dioxid about twice the concentration of the free carbonic acid in the blood with which the alveolar air is in equilibrium Consequently in normal individuals we have approximately 60 per cent of bicarbonate carbon dioxid, in the plasma one twentieth or 3 per cent of carbonic acid carbon *dioxid, and* in the alveolar air 6 volume per cent

If the bicarbonate carbon dioxid is reduced one half, the respiratory mechanism reduces the carbonic acid carbon dioxid of the plasma also one half For this reason the alveolar carbon dioxid is an indirect measure of the bicarbonate, and is useful as an accurate measure of the plasma bicarbonate In normal individuals the alveolar carbon dioxid indicates within a limit of error of about one part in five the level of the plasma bicarbonate The same limit of error holds good for diabetics so that the alveolar carbon dioxid is of use in diagnosing diabetic acidosis when it is not desirable to draw blood for the direct determination In certain other pathologic conditions, the alveolar carbon dioxid is no measure at all *of the plasma* bicarbonate or of acidosis, since its *value is dependent on* the normal function of the entire respiratory and circulatory apparatus The alkaline tolerance method of estimating the bicarbonate carbon dioxid as used by Sellards, Henderson and Palmore is also an indirect measure of the plasma bicarbonate The value of this test depends on the normal function of the kidneys The determination of the hydrogen ion concentrat*ion of the* blood even by the most accurate methods now available appears to be of less value as a warning *of the presence of* acidosis than any of the foregoing methods Only after the bicarbonate concentration has *fallen to* so low a level that the respiratory apparatus can no longer keep the free carbonic acid down to its normal *ratio of* one twentieth the bicarbonate does the hydrogen ion concentration of the blood actually increase, and by this time the acidosis is very severe In cases in which acidosis is caused by retarded elimination, the urine gives especially fallacious indications of the condition of acidosis A patient may be sinking in acidosis steadily toward coma, with only normal excretion of acids in ordinary metabolism What ever the cause, the direct result this excretion becomes increased and apparently as a result of the greater excretion The significance of urinary analyses in giving evidence of abnormal metabolism should not be minimized, but they do not show whether or not acids are accumulating in the organism

Graham Lusk Two forms of organic acids are produced from the metabolism of the foodstuffs the acetone bodies represented by beta-hydroxybutyric acid, and lactic acid Fats produce beta-hydroxybutyric acid, and carbohydrates produce lactic acid Proteins produce both classes of acids, beta-hydroxybutyric *acid from* leucin or tyrosin, for example, and *lactic acid from* glucose, which may be formed from alanin, glutamic acid etc Dr Howland spoke of the possibility of there being other organic acids than beta-hydroxybutyric acid and it may be interesting to suggest the possibility of the formation of lactic acid in the cases he has cited Lactic acid has been found to be a constant constituent of the human blood after exercise (Fries) and after ascending high mountains (Bancroft) In dogs it appears in the blood after cramps produced by strychnin or after phosphorus poisoning Spiro's observation in 1877 of the presence of lactic acid in the human urine after exercise has been confirmed by Ryffel, and by Hill Underhill finds a large elimination of lactic acid in dogs in consequence of the activity which follows the administration of cocain He also reports only a slight increase *in the ammonia* output the amount of which is usually held to be the criterion of the intensity of acidosis That lactic acid which is produced under all these conditions is derived from glucose follows from the fact that if one gives strychnin to a depancreatized diabetic dog violent convulsions ensue without any production of lactic acid, and if one produces phlorizin glucosuria in a dog poisoned with phosphorus, lactic acid disappears from both blood and urine In 1901, Munzer and Loewy administered sodium bicarbonate to dogs poisoned with phosphorus and in consequence ammonia almost disappeared from the urine indicating that the urea-forming function was normal In many ways the children described by Dr Howland recall the behavior of dogs poisoned with phosphorus Possibly a search for lactic acid in this disease, as well as in other pathologic states involving acidosis when the acetone bodies are absent, may lead to new information on this subject

Dr L Emmett Holt I would like to emphasize what Dr Howland said regarding the frequency of acetone in the urine in children often without any clinical significance. A member of the house staff of the Babies' Hospital tabulated 200 consecutive urines of young children examined, and found that acetone was present in 30 per cent of the cases Of those suffering from lobar pneumonia 70 per cent showed acetonuria In a series of cases studied at *the Babies'* Hospital, the *ammonia nitrogen content of* the urine, the carbon dioxid combining power of the blood and the acetone in the urine were determined The ammonia nitrogen in the urine ran quite parallel with the carbon dioxid combining power of the blood, but there was no constant relation between these two and the acetone bodies in the urine *It is not* uncommon to find acidosis in infants fed for a long time on high percentages of fats which, it has been stated, and I think rightly, is due to loss of bases *from the* body in combination with fats *in the stools*

Dr Oscar M Schloss My experience with acidosis has been confined almost entirely to intestinal intoxication *in* young infants In a small group of such cases I have determined the carbon dioxid content of the blood the ammonia content of the urine and the tolerance to sodium bicarbonate The results obtained are in accord with those of Dr Howland and Dr Marriott In several cases the relatively slight importance of acetone and diacetic acid in the urine was well shown in that despite a great reduction of the carbon dioxid of the blood and increased tolerance to sodium bicarbonate the urine contained no acetone or diacetic acid Dr Howland mentioned the uncertainty of the urinary ammonia as an index to the presence or degree of acidosis This has been true in several of my cases and is in accord with Sherman and Gettler, who found that when a subject is fed on a diet productive of high acidity, only a very small portion of the calculated acid appeared in the urine combined with ammonia, the greater portion being excreted as acid or acid salts It is of interest in this connection that the ash of cow's milk has relatively slight basic properties During the past summer the patients with intestinal intoxication with marked dyspnea admitted to the service of Dr LaFetra at Bellevue Hospital were treated by the administration of large doses of sodium bicarbonate In all, forty-two cases were treated, of which thirty-one terminated fatally Four patients recovered completely, three left the hospital in an improved condition and three were taken home unimproved Of the thirty-one fatal cases, sixteen showed very marked improvement so that recovery seemed probable Death was usually due to a recurrence of the intoxication which appeared suddenly and was of short duration The alkali influences symptoms but not the underlying nutritional disorder

Dr. Herman Schwarz Three types of acidosis have been seen and studied (1) that secondary to a gastro-enteric condition (2) that which is commonly called recurrent or periodical vomiting, and (3) that type following or in conjunction with infectious diseases, especially grip The last form was usually secondary to an infection of the nasopharynx and has a tendency to recur with other attacks of nasopharyngitis and was thus mistaken for a true form of periodic vomiting An interesting differential point was the polymorphonuclear leukocytosis which occurs in the infectious type, and a lymphocytosis which is invariably present in cases of cyclic or recurrent vomiting either during the attack or in the interval I have studied these three types of acidosis from the standpoint of blood sugar content and on the way the blood sugar reacts on the administration of sugar in these children Either the blood sugar may be normal, or when sugar is present in the urine there may be a hyperglycemia In these cases of acidosis the same rapid rise in the blood sugar content of the blood is noted immediately after the administration of sugar as is seen in normal children and adults, but after three or four hours or even more the blood sugar may be much above what it was before the administration of the sugar while in the normal individual it had dropped to normal by the end of two hours after the administration of sugar This may be explained by the impairment of the kidney function or as shown by Epstein the ability of the liver and muscles to build up glycogen is either impaired or destroyed Interesting points observed in giving sugar to these patients were that they would retain this solution of glucose when they vomited everything else and that the acetone and diacetic acid in the urine immediately disappeared for some hours The giving of casein caused the acidosis to disappear in some of these cases

Dr. Wilder Tileston New Haven Conn I want to call attention to the contrast between the effects of the same degree of acidosis as measured by the carbon dioxid tension of the alveolar air under different circumstances Thus the English observers Kennaway, Pembrey and Poulton found in diabetes a day or two before the onset of coma a sudden drop to 18 or 14 mm and they consider values below 25 mm as indicating a grave condition in this disease and those below 20 mm as foreshadowing imminent coma On the other hand Haldane, Henderson and Douglass at the top of Pike's Peak found that the carbon dioxid tension dropped to 18 or 20 mm as the result of the high altitude, without any serious effects In starvation Benedict found a tension of 26 mm It is evident that the gravity of the situation does not depend entirely on the degree of acidosis but partly on the underlying cause With reference to the relation of dyspnea to acidosis, Lewis and his co workers have recently described a type of dyspnea without cyanosis, occurring in elderly people with cardiorenal lesions in which they found a high degree of acidosis Nocturnal attacks of dyspnea and Cheyne-Stokes breathing were common In young persons with uncomplicated cardiac insufficiency, although dyspnea was present there was no acidosis Evidently the state of the respiratory center is also of importance for Peabody found a high degree of acidosis in the terminal stages of uremia without dyspnea Benedict found marked acidosis without increase in the total ventilation in a man undergoing a prolonged fast, and in the men taken to Pike's Peak the dyspnea disappeared after they became acclimatized, although the low tension of the alveolar carbon dioxid persisted even after descending to a lower level

Dr Abraham Jacobi What Dr Howland said in connection with overfeeding with fats as a cause of acetone and diarrhea is correct Lactose used in any quantity always produces acetone I do not give milk without carbohydrates This is the third point that will prevent acidosis

Dr W McKim Marriott Baltimore It is to be clearly understood that the acetone bodies beta-oxybutyric and aceto-acetic acid are in themselves not essentially toxic, and that they can prove harmful to the body only by removing the bases The appearance of acetone bodies in the urine in large amounts is, of course, evidence that there has been a large production in the body, but this may have been completely compensated for by the defenses that the body possesses A consideration of the blood gives us further information By examining the blood for acetone bodies we are enabled to determine how much acid has been accumulated If we find an accumulation of acids, it indicates that the kidneys are not excreting the acid as fast as it is being produced and that a considerable portion of the base of the blood has been claimed by the abnormal acid and that therefore a considerable amount of alkali must be administered to supply the deficit. The result of the administration of the alkali in such cases is usually to increase the excretion of acetone bodies in the urine and at the same time to diminish the concentration in the blood, this being coincident with improvement in the condition of the patient Graham Lusk mentioned lactic acid as a possible cause of the acidosis of nutritional disturbances in children Following his suggestion we have been looking for excessive lactic acid production in these children, but with the methods available we are unable to state positively whether or not lactic acid enters in as a factor I wish to make it very clear that acidosis in the diarrheal diseases of children is in itself not necessarily the cause of death It is probably not the cause of death in most cases In many cases however, it is in itself of sufficiently grave character to bring about a fatal outcome. By curing the acidosis we do not cure the primary disease, and even if the acidosis has been completely removed death may and usually does occur from the primary condition I would also emphasize the importance of an acyanotic dyspnea, more correctly, hyperpnea, as the most easily recognized indication of acidosis Probably the simplest laboratory test and one which gives valuable information by detecting even slight degrees of acidosis is the determination of carbon dioxid tension in the alveolar air We have modified the method of determination so that the gas analysis apparatus may be dispensed with and the determination carried out in a very few minutes by a person without laboratory training The hydrogen ion concentration of the blood or of the serum may be determined in a few minutes and with less than a cubic centimeter of material by the indicator method We have recently modified this method so that one can determine by it not only the actual hydrogen ion concentration but also the bicarbonate reserve of the blood and the carbon dioxid tension This method further serves to differentiate between an acidosis due to carbon dioxid and to nonvolatile acids No complicated apparatus is required Sellards' test serves to indicate an acidosis of severe degree The experimental administration of alkali serves both as a diagnostic and as a therapeutic measure

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below

American Journal of Obstetrics and Diseases of Women and Children, York, Pa

December, 1915, LXXII, No 6, pp 945 1116

1 *Treatment of Dysmenorrhea F B Block, Philadelphia
2 *Chorio Epithelioma Following Long Period of Latency After Last Preceding Pregnancy G W Outerbridge, Philadelphia
3 Hydrops Universalis Fetus, Report of Case E A Schumann, Philadelphia
4 *Conservative Surgery of Chronic Intestinal Stasis H D Meeker, New York
5 Malignancy of Uterus X O Werder, Pittsburgh
6 Case of Leimyofibroma, Complicating Pregnancy J N Bell, Detroit
7 Atypical Chorio Epithelioma B R McClellan, Xenia, Ohio
8 Fibroid Tumor Completely Obstructing Uterine Canal, Dead Fetus Long Retained without Infection O G Pfaff, Indianapolis
9 *Combined Operation for Interruption of Pregnancy and Sterilization P Findley, *Omaha*
10 Hemorrhages in Children H B Mills, Philadelphia

1 **Treatment of Dysmenorrhea**—Block's results in the treatment of a limited number of cases of dysmenorrhea treated with atropin have been most satisfactory The method of administration which he employs is to direct the patient to take one hundredth grain of atropin sulphate two or three times a day for two days before the expected period and continue it after the flow appears until relieved of symptoms In addition to this, the proper attention is paid to the lower intestinal tract and general personal hygiene Block's plea is for the careful differentiation of the various types of dysmenorrhea and, having accomplished this, to give the patient the benefit of that method of treatment which has been shown to be of avail in the particular type from which *she is suffering*

2 *Occurrence of* **Chorio-Epithelioma**—A case is reported by Outerbridge of the occurrence in a woman, aged 43 years, of a vaginal tumor presenting the histologic structure of a *malignant, chorio-epithelioma eight and a half years after* the last demonstrable pregnancy Outerbridge accounts for such a condition on the theory that, whereas in the vast majority of cases all fetal elements are destroyed by the maternal tissues within a comparatively short time after the termination of pregnancy, in exceptional instances fetal epithelia may remain dormant in the maternal organism, either at *the placental site or elsewhere, for months* and years, than to be by some unknown agency stimulated to malignant proliferation

4 **Surgery of Chronic Intestinal Stasis**—Unfortunately, Meeker says, there appears to be a *growing tendency* in the profession to associate the surgery of intestinal stasis with one of two procedures—either an ileocolostomy or a colectomy The therapeutic possibilities of conservative plastic surgery has received but little attention The principles of repair consist in relieving fixation of the gut, and covering over all denuded areas with peritoneum Fixation bands are divided transversely and sutured longitudinally, *the peritoneal margins being inverted* The band to be divided should be picked up by delicate forceps, the peritoneum nicked with blunt-pointed scissors and the cellular tissue and any underlying blood vessels *pushed out* of harm's way before the band is completely divided Very fine round needles should be used, threaded with fine paraffined linen the oil allowing the thread to be passed with the minimum amount of tissue trauma Each case is a problem in itself

9 Abstracted in The Journal, Oct 2, 1915, p 1214

American Journal of Roentgenology, Detroit

November, 1915, II, Nos 8, 9 and 10 pp 795 868

11 Roentgen Diagnosis of Indurated Gastric Ulcer L G Cole, New York
12 Technic of Deep Roentgen Therapy J T Case and L L Jones, Battle Creek.
13 Safe Interpretation of Roentgenograms of Gallbladder Region E W Caldwell, New York.
14 Role of Roentgen Ray in Diagnosis of Obscurer Forms of Heart Disease H Wessler, New York.
15 Diagnosis of Stomach Conditions by Roentgen Ray H W Van Allen, Springfield, Mass
16 Accessory Sinus Angle Finder F M Law, New York.

Archives of Diagnosis, New York

October, 1915 VIII, No 4 pp 301-402

17 *Significance of Thrombophlebitis in Thrombo Angeitis Obliterans L Buerger, New York
18 Diagnosis of Borderland *Psychoses* Warning L H Mettler, Chicago
19 Diagnosis of *Abnormalities of Myocardial* Function T S Hart, New York
20 Hypo Adrenia Miscalled Neurasthenia, Diagnosis and Prognosis. T A Williams, Washington, D C
21 *New Symptom of Ulcer at or About Duodenal Portion of Pylorus H *Stern*, New York
22 Rare Forms of Pericarditis G Singer, Vienna Austria
23 Diagnosis of Genito Urinary Conditions in Women by *Means of* Roentgen Ray G S Peterkin, Seattle, Wash
24 Urinalysis and General *Practitioner* R *Kilduffe, Jr, Chester, Pa.*

17 **Thrombophlebitis**—From the investigation on twenty-five exsected superficial veins, with a comparative study of the lesions in the deep vessels, Buerger concludes that an acute inflammatory stage *is the initial manifestation of the* pathology of the disease, thrombo-angeitis obliterans Certain purulent foci are developed, strongly suggesting the presence of some specific toxin, or, more probably, some microbial agent The destructive influence of these foci is evidenced in their action on the angioblasts, whose true purpose is thwarted, the result being the elaboration of a *morphologic complex, distinctive and characteristic for the* disease Just as in tuberculosis, and doubtless in Hodgkin's disease, certain well-known structural products represent the specific reaction of the tissues to some organism, so here, too, the changes described are absolutely typical and diagnostic Besides these changes, the production of aseptic, bland clot plays a part in the development of the occlusive tissue, while the infiltration of the media and adventitia make for the adhesive fibrosis in the deep vessels, and the distinctly palpable products of periphlebitis in the subcutaneous veins The change of the acute into the healed connective stage is rapid, a type of occlusion resulting which has for a long time been regarded as due to an "endarteritis *obliterans*"

21 **Ulcer of Duodenum**—The symptom described by Stern is both of an objective and subjective nature It is subjective because it is a reaction to pyloro-epigastric discom*fort or pain, it is objective because it is a visible* evidence that the patient voluntarily or involuntarily assumes that posture which gives him most comfort This posture constitutes the sign or symptom The patient, trying to stretch out his epigastrium on account of the relief obtained thereby, often prefers standing to sitting, when in discomfort while resting on a chair he sits in a slanting position in such a manner that chest, abdomen and legs form a perfect incline When experiencing discomfort while in bed, the patient tries to lie as straight as possible, often on the left, but never on the right side The symptom or sign is of especial value in differential diagnosis It is not present in gastric ulcer In gallstone colic, the patient usually lies on his left side with legs drawn up In appendiceal colic, as well as in the common affections of the cecum and the colon in general, the body of the patient, when sitting is bent over, when *lying*, his legs are more or less flexed

Archives of Pediatrics, New York

November 1915 XXXII No 11 pp 801 880

25 *Gonococcus Vaginitis M E Trist and J A Kolmer, Philadelphia
26 *Proper Position of Tonsillectomy in Pediatrics S Blum, San Francisco
27 *Tonsils Excretory Organs for Cervical Glands S Blum, San Francisco
28 Six Cases of Hemorrhage in Newly Born Babies J B Manning Seattle, Wash
29 *Physician and Child Labor* E N Clopper, New York
30 Unusual Case of Epididymo Orchitis in *Infant* A G Mitchell Philadelphia, and N J Quinn, Atlantic City, N J

25 **Gonococcus Vaginitis**—The method of vaginal washing in the smear diagnosis of gonococcus vaginitis, Trist and

Kolmer believe, has its greatest value in the diagnosis of chronic cases and cases under treatment In these cases the secretions are likely to be scanty, especially about the vulva and vaginal introitus, whereas considerable amounts may be present in the vaginal canal and about the cervix In vaginal washing these secretions are secured and this explains the success of the method Diagnosis by means of vaginal washing is, however, frequently difficult, and in all cases in which the discharge is free direct vaginal and cervical smears are to be preferred Vaginal washings usually disclose a higher percentage of pus cells in vaginitis than simple smears, and these alone aid greatly in diagnosis In subacute and chronic vulvovaginitis with scanty discharge vaginal washings will disclose gonococci in from 20 to 25 per cent of cases when direct smears are negative, the percentage of positive findings is increased after irritation of the vaginal mucosa with silver nitrate after the method of Norris The absence of gonococci in vaginal washings gives greater assurance of the absence of gonococcus infection and treatment guided by these examinations is likely to be more thorough, although greatly prolonged

26 **Proper Position of Tonsillectomy in Pediatrics**—Blum claims that tonsillectomy has become more than a therapeutic procedure, it has become a menace He says it is performed not only in cases in which definite indications are present, but also for the most trifling reasons (witness reports of reputable physicians that they consider anorexia, faucial hyperemia, restless nights, indications for tonsillectomy), and sometimes for no reason The present indiscriminate practice of tonsillectomy is unjustified because it is empiric, many of the alleged morbid symptoms attributed to diseased tonsils have not been proved to be caused by them, its results in Blum s observation have been unsatisfactory in many cases, it is dangerous He says that tonsillectomy is contraindicated in hemophilia status lymphaticus, diabetes, during epidemics of diphtheria and scarlet fever, during acute tonsillitis, during active cervical adenitis, at the time of adjacent local inflammatory affection It should be the operation of choice in malignant disease of the tonsils It may be indicated in recurrent peritonsillar abscess It should not be performed in infants It should only in exceptional cases be performed before the eighth year Between the eighth and fourteenth years if positive evidence of serious local or systemic injury emanating from diseased tonsils can be adduced, and if the tonsillar affection does not yield to conservative treatment, enucleation is indicated

27 **Tonsils Excretory Organs for Cervical Glands**—In a series of experiments on guinea-pigs, Blum claims to have demonstrated that the tonsils are excretory organs for the cervical glands Chemical substances which he has injected into the cervical glands of guinea-pigs were subsequently found in the tonsils of these animals Furthermore, Blum has subsequently found the chemical injected into the glands of these animals in their oral cavities He has also recovered from their oral secretions and has seen in their tonsils bacteria previously injected into the cervical glands of the animals

Boston Medical and Surgical Journal

Dec 25 1915 CLXXIII No 26 pp 941 978

31 Symmetrical Synovitis in Hereditary Syphilis Report of Case. A Post Boston
32 Some Modern Ideas About Anesthesia. F L. Richardson Boston
33 Episiotomy J T Williams Boston
34 Wanter — A Fad R. T Edes Reading
35 Mental Features of Congenital Syphilitics J H Bazeley and H M Anderson Boston
36 Diagnostic Value of Lange s Gold Sol Test. H C Solomon H O Koefod and E S Welles Boston
37 Salvarsan Apparatus C F Denny St Paul Minn

Canadian Medical Association Journal, Toronto

November 1915 V No 11 pp 949 1044

38 Medical Ideals in Ancient World J P McMurrich Toronto
39 Character and Treatment of Wounds in War H E. Munroe Edinburgh
40 Delivery by Hysterotomy Report of Five Cases H E. Kendall Halifax N S
41 Dyspnea in Cardiorenal Disease T F Cotton Montreal
42 Case of Acute Edema of Lungs. A G Nicholls, Amherst, N S
43 Case of Severe Pharyngitis in Association with Erysipelas H S Muckleston Montreal

Colorado Medicine, Denver

November 1915 XII No 11 pp 315 352

44 Methods of Estimating Functional Efficiency of Liver C. B Van Zant Denver
45 Effects of High Altitude on Heart Affections. A. Zederbaum, Denver
46 Triumphs of Preventive Medicine. J W Amesse, Denver

Florida Medical Association Journal, Jacksonville

November 1915 II No 5 pp 129 160

47 Tonsillectomy O H Johnson Jacksonville
48 Presenility of Eyes and Effects of Light on Eyes in Latitude F J Walter, Daytona
49 Progress of Intranasal Surgery L. C Ingram, DeLand
50 Motor Nerves and Their Importance in Affections of Eye. F P Hoover Jacksonville
51 Tuberculosis Disease of Double Origin H Byrd Princeton
52 Rare and Incomplete Forms of Epilepsy W P Spratling, Welaka

Illinois Medical Journal, Chicago

November 1915 XXVIII No 5 pp 321-400

53 Treatment of Tuberculous Disease of Spine. H B Thomas Chicago
54 Incipient Phthisis in Childhood L A Juhnke Chicago
55 Treatment of Laryngeal Tuberculosis E E Edmondson Mt Vernon
56 Tuberculosis J C R Wettstein Effingham
57 Tuberculosis in Children O W McMichael Chicago
58 Medical College Training in Tuberculosis C P Emerson, Indianapolis
59 Urochromogen Reaction in Pulmonary Tuberculosis M Biesenthal Chicago
60 Best Tuberculosis Prevention from Patient s Standpoint S M Teague Bloomingdale Ind
61 Tuberculosis Prevention from Physician s Standpoint J G Lamont Dunseith N D
62 Early Diagnosis of Tuberculosis A J Lanza, U S P H S
63 Bacteriology of So Called Intestinal Influenza A J Hinkelmann Galesburg
64 Roentgenography of Skull M J Hubeny, Chicago
65 Etiology and Diagnosis of Brachial Plexus Lesions G W Hall Chicago
66 Blood Pressure from Clinical Standpoint. G Richter St Louis
67 Interpretation of Blood Films A L Mann Elgin
68 Constitutional Inferior Individual and Public. C C Atherton Watertown
69 Submerging Asphalt at Temperature of Three Hundred and Sixty F with Recovery O F Scott Argo

Indiana State Medical Association Journal, Fort Wayne

November 1915 VIII No 11 pp 499 536

70 Relation of Spleen to Certain Anemias W J Mayo Rochester Minn
71 Our Obligations as Specialists. W N Sharp Indianapolis
72 *Vesical Calculi in Children Report of Case H O Mertz Laporte.
73 Interesting Kidney Case. J Y Welborn Evansville.

72 Abstracted in The Journal, Nov 20, 1915, p 1846

Iowa State Medical Society Journal, Des Moines

November 1915 V No 10 pp 467 506

74 Medical Progress P E Gardner New Hampton
75 Fixation of Femur Fragments with Lane Plate When Using Bone Transplant After Excision J F Clarke Fairfield
76 Recurrent Corneal Ulcers L Kinnier, Dubuque
77 Hydrocephalus. H M McClanahan Omaha
78 Eye Symptoms and Their Value in Chronic Sinusitis. J I Reeder Sioux City
79 Treatment of Retention of Urine. J Crawford Cedar Rapids
80 Indications for Cesarean Section W L. Allen Davenport

Journal of Biologic Chemistry, Baltimore

December 1915 XXIII No 2 pp 413 577

81 *Probable Nature of Substance Promoting Growth in Young Animals C Funk and A B Macallum Toronto Canada
82 Calcium in Permeability and Irritability J Loeb New York.
83 Salts Required for Development of Insects J Loeb New York.
84 *Occurrence of Pituitary Extract and Epinephrin in Fetal Pituitary and Suprarenal Glands C P McCord Detroit.
85 *Resumption of Growth After Long Continued Failure to Grow T B Osborne and L. B Mendel New Haven Conn
86 Determination of Urea in Urine by Urease Method C H Fiske Boston
87 Preparation of Protein Free Milk. H H Mitchell and R A. Nelson Urbana Ill.

88 Time Required for Reduction of Oxyhemoglobin in Vivo D I Harris and H J M Creighton, Swarthmore, Pa
89 *Nondestructibility of Uric Acid in Human Organism M S Fine, New York
90 Hydrogen Electrode Vessel W M Clark, Washington, D C
91 Refractive Indices of Solutions of Certain Proteins C L A Schmidt, Berkeley, Calif
92 Reduction of Oxyhemocyanin in Serum of Limulus Polyphemus L C L Alsberg, Woods Hole, Mass
93 Studies on Relative Digestibility and Utilization by Human Body of Lard and Hydrogenated Vegetable Oil C A Smith, R F Miller and P B Hawk, Philadelphia
94 *Chlorids in Diabetes After Pancreatectomy J E Lebensohn, Chicago

81 **Nature of Substance Promoting Growth in Young Animals**—The new series of experiments reported by Funk and Macallum clearly show the absolute inability of either butter or purified butter fat to stimulate the growth of young rats The addition of yeast stimulates, directly or indirectly, the appetite The calorific determination of the food and feces shows in all cases a practically complete absorption of the food by the digestive tract, as the calorific value of the feces represents but from 2 5 to 5 per cent of the calories taken in by the animals Whether yeast alone without butter (replaced by lard) will produce normal growth in rats, and whether there are one or more components in yeasts which stimulate growth, is under investigation

84 **Pituitary Extract and Epinephrin in Fetal Pituitary and Suprarenal Glands**—Physiologic reactions characteristic of extracts of pituitary and suprarenal glands were obtained by McCord from bovine fetal glands during all developmental stages in which the macroscopic recognition of the glands is possible For the pituitary gland, this period is from the eighth week to full term, for the suprarenals the period is from the sixth week to full term The presence of the active principles of these glands at so early a developmental period suggests that the fetus in utero may be under the influence of its own internal secreting glands as well as the maternal glands

85 **Resumption of Growth**—Osborne and Mendel found that the growth impulse, or capacity to grow, can be retained and exercised at periods far beyond the age at which growth ordinarily ceases In the case of experimental animals, albino rats in which increment of body weight ordinarily ceases before the age of 300 days, resumption and completion of growth were readily obtained at an age of more than 550 days The period of growth may be greatly prolonged by inadequacies in the diet, so that growth becomes very slow without being completely inhibited Though the time of reaching full size is thus greatly delayed, growth, as expressed by suitable body weight, can ultimately be completed even during the course of long-continued retardation

89 **Uric Acid in Human Organism.**—Fine points out that contrary to the findings of Schittenhelm and Wiener, uric acid can be demonstrated in considerable concentrations in human tissues The method for determining uric acid in the tissues used by Fine was essentially that employed for the blood

94 **Chlorids in Diabetes After Pancreatectomy**—The diabetes was produced by Lebensohn in dogs either by total pancreatectomy in one step, or by removal of the pancreas in two stages after the method of Hedon Not only was the chlorid excretion independent of diabetes and the degree of glucosuria, but it likewise seemed to bear no relation to the ammonia excretion If the increased ammonia excretion in the diabetes after pancreatectomy of dogs be considered an index of acidosis, Lebensohn says, these negative findings may be taken as failing to confirm Fischer's theory chlorid retention That ingestion of large amounts of NaCl does not change the amount of chlorid excreted in the feces indicates that in diabetes after pancreatectomy there is no change in the chlorid absorptive power of the intestine

Journal of Cutaneous Diseases, New York

November, 1915, XXXIII No 11, pp 731 786

95 Ringworm of Scalp in Chicago, Bacteriologic Study of One Hundred Cases B B Beeson, Chicago
96 Use of Mercury in Verruca Plana Juveniles C J White, Boston
97 Chronic Superficial Excoriation of Tongue, or Moeller's Glossitis Report of Two Cases F G Harris, Chicago
98 Pellagra in New York and Its Vicinity, Report of Two Cases F Wise and M F Lautman, New York

Kansas Medical Society Journal, Topeka

November, 1915 XV, No 11 pp 329 358

99 Early Recognition of Ruptured and Unruptured Ectopic Pregnancy W A N Dorland
100 Toxemia of Pregnancy, Report of Two Cases E A Reeves, Kansas City
101 Some Practical and Economical Features Facing Medical Man W G Norman, Cherryvale
102 Epidemic Influenza in Children, with Special Reference to Gastro-Intestinal Complications F H Smith, Goodland
103 Sugar as Normal Constituent of Urine C F Nelson, Kansas City

Laryngoscope, St Louis

November, 1915, XXV, No 11, pp 739 802

104 Operation for Draining Lachrymal Sac and Nasal Duct into Unciform Fossa H P Mosher, Boston
105 Improved Technic in Application of Thiersch Graft in Radical Operation for Chronic Middle Ear Suppuration E B Dench, New York
106 Spontaneous Cure of Six Cases of Unrecognized Sinus Thrombosis Accidentally Discovered During Operation E W Day, Pittsburgh
107 Bacillus of Perez as Etiologic Factor in Ozena W R. Murray and W P Larson, Minneapolis
108 Labyrinthine Fistula, Operation, Recovery J L. Maybaum, New York
109 Case of Abnormal Bone in Throat W O LaMotte, Wilmington, Del
110 New Suction Apparatus for Nose, Throat and Ear Operations T E Carmody, Denver
111 Tonsil Enucleator W D Byrne, Chicago

Medical Record, New York

Dec 18 1915, LXXXVIII No 25 pp 1033 1078

112 Blood Pressure with Special Reference to Diastolic L F Mackenzie, Newark N J
113 *Stigmata of Tuberculosis C J Holeman, U S Navy
114 Transient Attacks of Manicdepressive Insanity M S Gregory, New York
115 Conservation Work as Applied to Life Insurance. F C Wells New York
116 Metastatic Carcinoma of Brain with Unusual Ocular Symptoms S H Brown, Philadelphia
117 Tuberculin as Aid in Surgical Tuberculosis C B Burke, Atlantic, Iowa
118 Indicanuria and Sulphates J C Warbrick, Chicago

113 **Stigmata of Tuberculosis**—During several years of observation of the tuberculous, the fact that the majority of them exhibit those signs that are described as stigmata of degeneration impressed itself on Holeman And of these stigmata, the most common, as well as the most striking and easily observed, are the various malformations of the pinna Next to these, ill-formed palates and gross facial asymmetries abound Search of the records of 189 cases revealed a note of such stigmata in 117 cases, or 61 9 per cent Of 233 patients now in the hospital, 188, or 80 per cent, show stigmata of the kind mentioned The following classical types of deformities of the pinna were observed Darwin, 16, Wildermuth, 16, Stahl No 1, 11, Blainville, 7, Morel, 5, Stahl No 2, 2 Holeman concludes that the "stigmata of degeneration" of the psychiatrist may be accepted as "stigmata of susceptibility" by the phthisiologist Should further evidence be demanded, the fact that the insane—the possessors of confirmed external stigmata—are of all individuals most preyed on by tuberculosis is confirmatory

In view of this relation between mental disease, tuberculosis and external stigmata, is it not likely that there is some fundamental cause operating on the tissues at a time when ectoblastic (furnishing central nervous system and skin with its appendages) and entoblastic (furnishing bronchopulmonary system) derivatives were still directly subject to the same influences, that is prior to the primary differentiation of the layers? Of blastophthoric influences alcohol easily stands first Among other blastophthoric influences syphilis lead and other cachexias are important, as are also tuberculosis and insanity themselves Perhaps, too, psychic influences, concerning which few data are available, as fright, fear and anger on the part of the mother, might be included

Modern Hospital, St. Louis

November 1915 I No 5 pp 311 86

119 New San Francisco Hospital R G Brodrick San Francisco
120 Social Survey of Dispensary Patients in Philadelphia B Jobes and F Hostetter Philadelphia
121 Treatment of Mental Disease in General Hospital J M Mosher, Albany, N Y
122 Condensed Milks and Casein Preparations J P Street, Cincinnati
123 Architecture and Equipment of Barre City Hospital E F Stevens Boston
124 Medical Libraries for Modern Hospitals G W Myers Boston
125 Principles of Hospital Construction M J Sturm Chicago
126 Purchase of Hospital Supplies. L H Burlingham, Boston
127 Company Hospital R W Corwin Pueblo, Colo
128 Books for Hospital Library E K Jones, Waverly, Mass

New York Medical Journal

Dec 25 1915 CII No 26 pp 1265 1304

129 Cottage Hospital in Rural Communities C P Noble Philadelphia
130 William Konrad Roentgen I S Hirsch New York.
131 Short History of Roentgen Rays P M Brown Boston
132 Influence of Roentgen's Discovery on Medicine L Kast, New York
133 Physics of Roentgen Radiation J S Shearer Ithaca
134 Roentgen s Discovery W D Coolidge Schenectady
135 Thyroid Disease S P Beebe and J W Beveridge New York
136 Case of Pharyngeal Stenosis H Hallarman New York.
137 Decayed Teeth and Cancer A M Nodine New York

New York State Journal of Medicine

December 1915 XV No 12 pp 457 500.

138 *What Stomach Symptoms Justify Surgical Intervention M B Tinker Ithaca
139 *Pathologic Study of Syphilitic Aortitis and Its Serology J H Larkin and I J Levy New York
140 Treatment of Vaginal Discharge. G Chandler Kingston
141 Pancreatic Cysts Report of Two Cases G B Broad Syracuse
142 Foreign Bodies Left in Abdomen and in Surgical Wounds M D Mann Buffalo
143 Mouth Infections as Related to Systemic Disease. S M White Minneapolis

138 Abstracted in THE JOURNAL, May 22, 1915, p 1789

139 **Study of Syphilitic Aortitis**—Forty-two aortas were examined by Larkin and Levy and the serums of these cases tested serologically before death Nineteen of these gave positive Wassermanns; twenty-three were negative Of the nineteen positive cases, seventeen aortas gave microscopic evidence of syphilitic aortitis namely, 90 per cent of their positive reaction (those serums fixing complement according to the method above described), have, at least, a definite pathologic explanation, based on changes in the aorta which are pathognomonic of syphilis It is interesting to note that fifteen of the nineteen patients died as a result of a syphilitic process—about 80 per cent , while eleven of the nineteen died from their syphilitic aortitis—about 60 per cent The four patients dying from syphilis other than aortitis were one case of syphilitic cerebral endarteritis, one of meningomyelitis, one of tabes and one of ulcerating gumma of the larynx Of four patients with positive Wassermanns dying of nonsyphilitic conditions but showing perivascular infiltration, two died of carcinoma of the bronchus one of chronic ulcerative tuberculosis and one of interstitial nephritis The authors are of the opinion that it is highly probable that about 90 per cent of individuals dying with a positive Wassermann, if the infection is not of recent origin, have at least, from the histologic point of view, syphilitic aortitis That about 60 per cent of them die from their aortitis, giving clinical evidence of cardiac decomposition or rupture of an aneurysm, and that about 80 per cent of these individuals die of syphilis Since only one case of perivascular cellular infiltration gave a negative Wassermann in their series it is fair to assume that 94 per cent of individuals suffering from syphilitic aoritis would give a positive reaction in their serum

Northwest Medicine, Seattle

November 1915 VII No 11 pp 339 72

144 Cerebellar Localization with Reference to Nystagmus and Vertigo as Localizing Signs F Epplen Spokane.
145 Cesarean Section Operation of Choice. E. F Tucker Portland Ore.
146 Present Status of Salvarsan and Allied Products in Treatment of Syphilis from Standpoint of General Practitioner J R Brown Tacoma.
147 Fracture of Jaw in Children and Importance of Preserving Six Year Molars J B McNerthney, Tacoma
148 Mesenteric Cysts L W Chilton, Canyon City, Ore
149 Medical Organization in Idaho J N Alley, Lapwai Idaho
150 Physician and Public. R S Joyce, Ogden Utah

Ohio State Medical Journal, Columbus

November 1915 XI No 11, pp 675 746

151 Psychic Factor in Deafness P D Kerrison, New York
152 Surgical Conditions of Great Omentum C A Hamann, Cleveland
153 *Recent Results in Roentgen Ray Treatment of Menorrhagia and Uterine Myoma S Lange, Cincinnati
154 Ectopic Gestation J W Fitch Portsmouth
155 Tumors of Lachrymal Gland Report of Case with Operation J L Washburn, Youngstown

153 Abstracted in THE JOURNAL, Nov 6, 1915, p 1670

South Carolina Medical Association Journal, Anderson

November 1915 XI No 11 pp 337 368

156 Simplified Anorectal Surgery and Anorectal Constipation (Stasis) S G Gant New York.
157 Better Way of Putting Diaper on Baby S A Visanska Atlanta, Ga.
158 Diseased Tonsil Factor in Production of Systemic Diseases L O Mauldin Greenville
159 Etiology and Symptoms of Pellagra J S Fouche Ninety Six
160 Skin Diseases of Childhood I Schayer Columbia.

Southwest Journal of Medicine and Surgery, El Reno, Okla

November 1915 XXIII No 11 pp 309 344

161 Early Pathologic Changes and Their Relationship to Clinical Symptoms and Physical Signs in Pulmonary Tuberculosis F M Pottenger Monrovia, Calif
162 Surgical Treatment of Chronic Gonorrhea C W Tedrowe, Elk City

Tennessee State Medical Association Journal, Nashville

November 1915 VIII No 7 pp 295 337

163 Chronic Ulcer of Leg W S Farmer, Cookeville
164 Classification of Irregularities of Heart Beat L Smith Nashville
165 Egg Membrane Substitute for Bone Grafts, et al in Traumatic Defects of Skull B B Cates Knoxville
166 Sporotrichosis Report of Case H F Friedman Nashville.
167 Pityriasis Rosea J H King Nashville
168 Autogenous Serum in Certain Diseases of Skin J M King Nashville.
169 Most Used and Abused Muscle of Human Body A C Lewis Memphis
170 Trachoma Public Health Problem F J O'Connor, Jackson
171 Bichlorid Poisoning from Local Absorption. H P Larimore, Chattanooga
172 Use and Abuse of Vaccines H. Spitz, Nashville.

FOREIGN

Titles marked with an asterisk (*) are abstracted below Single case reports and trials of new drugs are usually omitted

British Medical Journal, London

Dec 4 1915 II No 2866 pp 801 844

1 Gas Poisoning L Hill
2 Treatment of Gunshot Wounds of Abdomen A W Mayo Robson
3 Field Ambulance Work at Anzac C M Begg
4 Recruit s Heart. J Mackenzie.
5 *Supposed Soluble Toxin Produced in Artificial Culture by Bacillus of Malignant Edema G Barger and H H Dale
6 *Antiseptic Action of Hypochlorites H D Dakin.
7 *Splint for Compound Fractures of Arm G M Giles
8 *An Adjustable and Standardized Splint for Treatment of Fractures W B Hayes.
9 Electrical Treatment of Disabilities Due to Wounds J J Grace.
10 Typhus in Serbia B W Howell
11 *Case of Leprosy Diagnosed by Roentgen Rays A Neve.
12 Spinal Injuries of Warfare G Holmes

5 **Soluble Toxin Produced in Artificial Culture of Malignant Edema**—The material used by Barger and Dale was obtained by growing the organism for five to six days at 37 C. on minced ox heart, previously sterilized in the autoclave. The culture was started in hydrogen and provision made for the escape of gases which the culture soon produced in abundance, by a tube leading from the cultural jar into a trap filled with sulphuric acid The semifluid evil-smelling product was filtered first through paper-pulp, and then through a Berkefeld candle A nearly clear brown filtrate was obtained This filtrate produced the acute intoxication described by Besson when injected into guinea-

pigs, the fatal dose for an animal weighing about 300 gm varying from 3 to 5 c c with different preparations

6 **Antiseptic Action of Hypochlorites**—Dakin claims that this "new antiseptic" was discovered in 1788 by the French chemist, Berthollet He obtained a liquid with bleaching and disinfecting properties by the action of chlorin on aqueous alkalis The composition of the mixture was obscure, but Berthollet presumed that additive compounds were formed between the halogen and alkali—for example, Na OCl Berzelius in 1808 expressed the view that the product formed was a mixture of a salt of an unknown acid or chlorin with sodium chlorid The discovery of this acid—hypochlorous acid—in 1834 by Balard definitely settled the composition of Berthollet's fluid as a mixture of sodium chlorid and sodium hypochlorite Four years after Berthollet's discovery in 1792 the corresponding potassium salts were made commercially by Percy at the Javel works near Paris by passing chlorium into crude potashes The product sold as eau de Javel, and its use as a disinfectant was advocated by Berthollet and by Guyton de Morveau In 1820 Labarraque prepared a fluid similar to Berthollet's by the action of chlorin (1 mol) on an aqueous solution of sodium carbonate (2 mols) This preparation containing much free alkali became known as "Liqueur de Labarraque," or "Labarraque's disinfecting fluid" At a later date solutions of the hypochlorites of sodium and potassium were largely replaced by the more stable solid "chlorid of lime' a combination of calcium chlorid and calcium hypochlorite It was with this substance that Semmelweis in 1846 succeeded in eradicating endemic puerperal fever from his clinic

7 **Splint for Compound Fractures of Arm**—Giles' splint is made from stout wire and scraps of tin The essential point of the contrivance is a long marrow extension, which is brought up and bent over the acromion and fixed there in position directly over the head of the humerus by means of a pair of body straps

8 **Splint for Treatment of Fractures**—The splint which Hayes describes is practically the Thomas splint made completely adaptable It is adjustable to any size limb and can be adapted to either the right or the left side Being made from one pattern and in one size, it is therefore standardizable

11 **Leprosy Diagnosed by Roentgen Rays**—In Neve's case the disease was so atypical as to remain in doubt, even when examined by experts, until the Roentgen rays showed clearly the well marked osseous lesions of leprosy The points that raised a suggestion of leprosy were (a) a little clubbing of the fingers, of which the terminal joints were not quite straight and symmetrical, (b) the toes appeared slightly shortened, and one of them was crooked He was carefully examined for certain signs, which were all negative A roentgenogram showed entire disappearance of the terminal phalanges of most of the toes

Edinburgh Medical Journal

December, 1915 XV, No 6, pp 385 464

13 *Angina Pectoris B Bramwell
14 French Country Practitioner of Old School J B Adams
15 Foreign Bodies Removed from Bronchus and Esophagus J S Fraser
16 Case of Failure of Union Between Vas Deferens and Testis C H Whiteford

13 **Angina Pectoris**—Bramwell's view of the mode of production of the pain in angina pectoris is 1 That in the ordinary typical cases in which the pain radiates down the left arm, the afferent nerves of the heart distributed to or over the left ventricle are irritated, that the exact manner in which this irritation is excited (whether localized spasm increased tension in the cavity of the ventricle, etc) is still undecided, that the exciting cause of the pain in this and indeed in all types of angina pectoris is usually increased blood pressure, whether actual or relative (walking uphill, against a wind, etc) that over-distention of the stomach (walking after a full meal, flatulent distention, etc) is a frequent exciting cause of the attacks, that in some cases emotional excitement is the exciting cause, that in other cases there is no apparent exciting cause 2 That in the exceptional cases in which the pain is reflected to the right arm alone, the afferent nerves distributed to the aorta or passing over the aorta from the right side of the heart are irritated, that perhaps in some of these cases (though this seems to be less likely), the afferent nerves distributed to and over the right ventricle are directly irritated in the same way that the nerves distributed to or over the left ventricle are irritated in the ordinary cases included in group 1 This seems to be supported by Bramwell's clinical experience, which, he says, shows that in the cases included in this group (2) and in the next group (3), lesions of the aorta are much more frequently present than in the cases included in group 1 3 That in some of the cases in which the pain is referred to both arms, the irritation first passes to the left side and then over to the right side of the spinal cord, and so first to the left and then to the right arm, in other cases the irritation first passes to the right side and then to the left side of the spinal cord, and so first to the right arm and then to the left arm

An analysis of 178 cases of angina pectoris is made by Bramwell In forty-eight, or 26 9 per cent, of the 178 cases no definite lesion was detected either in the heart or aorta, in twenty-eight cases, or 15 7 per cent, the heart's action was weak and the muscular wall of the heart apparently degenerated (fatty, fibroid, etc), in twelve cases, or 6 7 per cent the heart was enlarged without obvious valvular lesion, in forty-four cases, or 24 7 per cent, a valvular lesion was present, in one case, or 0 5 per cent, the pericardium was adherent, and in forty-five cases, or 25.2 per cent the aorta was either dilated or aneurysmal

Indian Medical Gazette, Calcutta

November, 1915, L No 11, pp 401 440

17 Suprapubic Lithotomy in Treatment of Vesical Calculus V B Bennett
18 Irrigation After Extra Capsular Extraction of Cataract E A R Newman
19 Combined Vaccinations A Castellani
20 Blackwater Fever, Report of Three Cases C E P Forsyth and E T Jameson
21 Outbreaks of Epidemic Dropsy in Mofussil S L Sircar
22 Examination of Rectum and Anal Canal P C Chapman
23 Radical Treatment of Hydrocele without Excision of Sac. B Madhab De

Lancet, London

Dec 4 1915 II No 4814 pp 1255 1282

24 Gunshot Wounds of Lungs, Report of Cases W H White
25 *Urea as Bactericide and Its Application in Treatment of Wounds W St C Symmers and T S Kirk
26 Perforation of Gastric and Duodenal Ulcers R Warren
27 Investigation on Nature of Ultra Microscopic Viruses F W Twort
28 Method of Drop Measuring Liquids and Suspensions R Donald
29 Roentgenographic Method of Localizing and Measuring Depth of Foreign Bodies F J Stansfield
30 Spontaneous Rupture of Uterus with Unruptured Membranes and Accidental Hemorrhage E Macirone
31 *Prolapse of Lung Through Deficiency in Anterior Portion of Diaphragm J N Kilner

25 **Urea as Bactericide in Wounds**—According to Symmers and Kirk we have in urea a substance which in the dry state is permanently stable, which is practically nonpoisonous which is highly diffusible, and which even in low concentration (3 per cent) affects the growth of bacteria, is inhibitive to growth at about 8 to 10 per cent, and which is markedly bactericidal to nonsporing bacteria in the higher percentages This bactericidal effect is active in the presence of blood and such like organic fluids Moreover, urea is nonirritating to living tissues, the dry substance may be sprinkled over wounds to almost any extent without any injury to the parts During the last four years the authors have been using urea clinically, at first in fresh 100 per cent watery solution The only cases in which this gave results of undoubted value were those of diphtheria carriers, in which it was used as a wash In surgical cases they never got really good results until the urea was used in the solid form, and used very liberally, and the solution of it in the blood or serum in the wounds kept closely in contact with the tissues, either by closing the wound with continuous sutures or covering it with some protective material such as oil silk in order to

prevent drainage Dry dressings on the top of the urea absorbed the solution and prevented its action on the tissues It is entirely innocuous to the living animal tissues, even when used in large quantities in the solid forms Symmers and Kirk have proved this by using it on Thiersch's epithelial skin grafts on healthy ulcers it has never caused any necrosis of the grafts

In many cases of radical cure for inguinal hernia urea has been placed between the different layers of tissue without doing any damage thereto In one case of radical cure for hernia in a man with a chronic staphylococcic blood infection the urea was sprinkled between the layers of tissue, and these layers were closed with continuous sutures so as to prevent all drainage Since October 4, all the wounded soldiers under their care in the Ulster Volunteer Force Hospital have been treated with urea and it has been found that sloughing infected wounds dressed with urea once in twenty-four hours give better results than similar cases treated in any other way In wounds treated with urea under protective tissue, there is absence of the venous congestion of the tissues that occurs in cases treated with ordinary wet dressings, continuous irrigation, or frequent baths The circulation in the tissue is normal, and repair seems to be much more rapid than under the conditions produced by fomentations, etc There is also no irritation of the skin The drawbacks to its use are that in some cases it produces a considerable amount of pain, and urea absorbs moisture somewhat quickly and becomes caked It can be carried for a long time in envelopes made of protective tissue and put up in this way it could easily be adapted as a first-aid dressing for use on the firing line

31 **Prolapse of Lung**—Kilner's patient a male, about 30 years old, had suffered for two years from epigastric pain brought on by food He often obtained relief by inducing vomiting A swelling occasionally appeared above and to the right of the umbilicus During examination pain was elicited by deep pressure at a point external to the right rectus abdominis muscle and about 2 inches below the costal margin The uppermost segment of the right rectus was slightly rigid An ill-defined thickening could be felt along the lower edge of the liver in the region of the ninth costal cartilage. Immediately after the examination has been concluded a tumor, measuring about 2 inches by 1½ inches, suddenly appeared at the point of intersection of the mid-Poupart and infracostal lines The long axis was transverse The swelling rapidly spread up to the middle line and showed irregular movements, which passing from right to left, were puzzling and difficult to explain On palpation the tumor was ill-defined, soft and boggy It could not be reduced There was no pain or tenderness The percussion note was flat After remaining visible for some minutes the swelling vanished

The abdomen was opened by an incision to the right of the middle line A bubble of gas, 2 or 3 c c in volume, appeared for a moment beneath the peritoneum just as this was incised Nothing abnormal was found in the abdomen until the gas bubble appeared again from beneath the costal margin and was found to lie between the folds of the falciform ligament of the liver It was followed immediately by a pyramidal mass of tissue, of which a portion 3 inches long and 3 inches broad at the base presented below the costal margin This, which was evidently right lung, was dull red in color, firm and elastic to the touch, and easily reduced into the thorax through an oval opening in the diaphragm The opening admitted three fingers and was bounded in front by the posterior surface of the lower part of the body of the sternum, and behind by a right arch The xiphisternal and adjacent costal fibers of the diaphragm appeared to be deficient A finger passed through the opening toward the left rested on the pericardium No attempt could be made to close the opening in the diaphragm The abdominal wound was sewn up, and it healed by first intention A week after the operation the patient had a severe hemorrhage from the lungs A second hemorrhage, nearly as profuse, occurred forty-eight hours later Recovery from the effects of the bleeding was rapid When he left the hospital a month later his general condition was satisfactory and there had been no recurrence of either tumor or pain

Practitioner, London

December 1915 XCV No 6 pp 729 860

32 Pitfalls in Appendicitis D Power
33 Recent Work in Connection with Anesthetics J Blumfeld
34 Venereal Diseases as We See Them Today J E R McDonagh
35 Prostatic Obstruction and Its Sequelae. J S Joly
36 Hematuria R Thompson
37 Recent Work in Dermatology — Bullous Diseases. J M H Macleod
38 Alopecia Areata D Freshwater
39 Alopecia and Its Treatment. W K. Sibley
40 Mitral Stenosis and Its Peculiarities A Graham Stewart
41 Generalized Anasarca with Ascites, Complicating Exophthalmic Goiter H V Mitchell
42 *Treatment of Septic Wounds by Silver Nitrate W J S Ingram

42 **Treatment of Septic Wounds**—Removing the foreign material by fomentations, if necessary, Ingram applies silver nitrate over the bed of the ulcer and along any sinus, paying particular attention to thoroughness of application along the course of the sinus For the next twenty-four hours, he puts on an ordinary dry dressing of biniodid gauze After twenty-four hours, the bed of the ulcer is covered with a brownish, slimy slough, in some cases, the margin of the ulcer is inflamed and angry looking For the next twenty-four hours apply fomentations three times, and, as the result, the marginal inflammation has gone or largely subsided the slough separates and the bed of the ulcer is covered with clean healthy, granulation tissue Healing then proceeds rapidly Later, Ingram tried fomentations after the application of the silver nitrate, and found that, in most cases the slough separated during the first twenty-four hours, the same healthy granulation tissue resulting In deep wounds or ulcers or in which hypergranulation tissue was abundant, two or three applications of silver nitrate was necessary allowing an interval of three days between each application

Archives de Médecine des Enfants, Paris

November 1915 XVIII No 11 pp 573 628

43 Vaccine Therapy in Forty Six Cases of Typhoid in Children E Ortiz, M Acuña and L Belloc. To be continued
44 Cerebrospinal Meningitis in Two Infants and One Young Woman Prompt Benefit from Serotherapy Condat.
45 Sarcoma of Prostate in Child under Five B de Saussine and others.

Bulletin de l'Académie de Médecine, Paris

Nov 16 1915 LXXIV No 46 pp 529 554

46 Visual Disturbance in Diagnosis of Wounds of the Brain (Les troubles visuels dus aux lesions des voies optiques intracerebrales dans les blessures de l encephale par coup de feu) P Marie and C Chatelin
47 *Protection for Vaccination Pustule (Pansement vaccinal protecteur Pansement de nécessité et pansement de complaisance) L Camus
48 Deafness from Explosion of Shell in Vicinity (Surdités de guerre) A Castex
49 Morphology of Typhoid and Paratyphoid Bacilli Cultivated in Human Cerebrospinal Fluid in Vitro Daumézon
50 *Toxicity of Extracts of the Prostate (Note sur l'action dés intoxicante de l ablation des adenomes de la prostate correspondant au pouvoir hypertoxique des extraits de cette glande) P Thaon

Nov 23 No 47 pp 555 593

51 Discussion on Wording of Circular Warning Against Venereal Diseases Letulle and others
52 Partial Tetanus (Tétanos localisé) C Monod
53 *Favorable Experiences from Utilization of Cytophylactic Action of Magnesium Chlorid in Treatment of Wounds A Pinard
54 Tetanus Simulating Ileus Developing Ninety Seven Days After the Wound Brochet.
55 A Year s Experience with Antityphoid and Antiparatyphoid Vaccination G Maurange
56 Devices to Correct Effects of Paralysis (Note sur la prothese fonctionnelle des membres) Pierre Robin
57 The Oscillometer in Estimating Permeability of Arteries A Cawadias.

47 **Protection for Vaccination Pustule**—Camus uses an oblong of adhesive plaster with the adhesive substance on both sides covered with gauze Three large round holes are cut in a row in the oblong leaving only a narrow margin like a frame. The gauze is stripped from one side and this side is applied to the arm. Then the gauze is turned back

from the other side and the vaccination is done through the holes and the gauze veil replaced

50 **Toxicity of the Prostate**—Thaon reports the results of additional experimental research which confirm his previous announcements in regard to the extreme toxicity of extracts of the prostate A maceration of 20 or 25 centigrams of bull prostate kills in three or four seconds a rabbit weighing 2 500 gm He is convinced that part of the clinical picture seen with enlargement of the prostate is due to some direct toxic action from the prostate He cites further Bazy's experience to the effect that the disturbances resulting from hypertrophy of the prostate may be alleviated more or less by providing drainage for the bladder, but that they never subside entirely until the prostate has been removed The general health is liable to improve so remarkably after prostatectomy, in comparison to the previous condition, that there is little doubt that other factors besides the mechanical are involved

53 **The Cytophylactic Dressing for Wounds**—A few months ago Delbet called attention to the remarkable way in which phagocytosis was intensified by a 12 1 per thousand solution of anhydrous magnesium chlorid Pinard here reports that he has been utilizing this property in treatment of the wounded in his service He uses 18 gm of crystallized magnesium chlorid to 1 000 gm sterilized water and irrigated the wounds with this twice a day at first and then once a day, covering afterward with a thin layer of absorbent cotton also moistened with the solution The wounds healed far more rapidly than with any other treatment, as also phlegmons and other lesions He declares that limbs and lives have been saved in his service by this treatment which he regards as great progress (Delbet's announcement of what he called the cytophylactic action of magnesium chlorid was summarized in these columns, October 23, p 1492)

Lyon Chirurgical, Lyons

October 1915, XII No 4, pp 397 564 Military Surgery Number

58 *Injury of Retina or Choroid with Intact Eyeball (Lesions des membranes profondes de l'œil par blessures de guerre avec intègrite du globe) E Rollet and L Mangini
59 Tardy Tetanus After Preventive Serotherapy, Four Cases L Berard and A Lumiere.
60 *Sodium Persulphate in Treatment of Tetanus A Lumiere
61 Tardy Traumatic Tetanus (Cas de tetanos retarde) P Vallette (Cas de tétanos tardif à symptomatologie fruste) R Leriche
62 Gas Gangrene, Gas Phlegmons and Gas Pleurisy (Quelques observations d'infections gazeuses) L Tavernier
63 Localization of Foreign Bodies (Quelques operations de reperage des corps etrangers par le compas de Hirtz) L Desgouttes and R Dupont
64 Decalcification and Wasting of Bone After Shattering Wound (Atrophie osseuse calcaire consecutive aux fracas osseux par projectile de guerre) L Pech
65 Treatment of Pseudarthrosis of Forearm Consecutive to Wound, Sixteen Cases G Nove Josserand
66 Resection of Shattered Hip Joint (Technique pour la résection de la hanche en chirurgie de guerre) L Berard
67 *Treatment of Wounds of Bones and Joints (Lesions osseuses et articulaires par armes a feu) M Gangolphe (Technique pour la resection de la hanche en chirurgie de guerre) L Berard (Resection du genou d'emblee comme traitement de la fracture comminutive par balle de l'extremite inferieure du fémur) C Viannay (Sur la resection primitive dans les coups de feu articulaires avec fracture) R Leriche (Des résections tres etendues de l'humerus dans les eclatements de cet os au niveau de l'épaule) R Leriche
68 *Obliteration of Lateral Sinus to Arrest Venous Hemorrhage in Wounds of the Neck Lannois and Patel
69 Spontaneous Evolution and Treatment of Wounds of the Chest (Plaies de poitrine par projectiles de guerre) L Thevenot and F Dumarest
70 Immediate Operations for Abdominal Wounds J Murard
71 *Emergency Transfusion of Blood by Aid of Quill (Procede simple et pratique de la transfusion du sang a l'aide d'une plume de poulet) A Rendu

58 **Injury of the Deep Membranes of the Eye with Apparently Intact Eyeball**—Rollet and Mangini have encountered ninety-six cases of this kind among the wounded in their charge They gi[illegible] here twenty-four colored plates of the findings They are those of detachment of the retina or rupture of the choroid o[illegible] of hemorrhages in either, with their consequences In genera[illegible]ision gradually improved, but in some cases it grew worse[illegible]nd the papilla atrophied The eyeball is so elastic that it does not suffer as much as the retina and choroid from the contre-coup from a projectile in the vicinity

60 **Sodium Persulphate in Treatment of Tetanus**—Lumiere has been studying for years the action of oxidizing agents on tetanus toxin The results in vitro and also in the guinea-pig, dog, goat and ass have all demonstrated, he states, that the greatest destruction of the toxins is realized with the alkaline persulphates His experiments on hundreds of animals all testified to the superior efficacy in this respect of sodium persulphate It displayed always a favorable action, attenuating or suspending completely the spasmodic contractions During the thirteen years before the war this drug was used at Lyons in eight clinical cases, and six of the patients recovered When tetanus became so frequent during the first months of the war, thirty-three tetanus patients were given an intravenous injection of 20 c.c. of a neutral 5 per cent solution of sodium persulphate once or twice a day as indicated The spasms were considerably attenuated or entirely arrested, but the permanent contractions did not seem to be influenced The trismus the contracture of the abdominal wall and the stiffness of the neck persisted, but the patients had no further convulsions and lay quiet and tranquil Even this is a great gain Forty one cases are tabulated, eight did not receive the sodium persulphate, four died of their wounds when the tetanus seemed under control, sixteen recovered, and thirteen died The tables show that the incubation period in the cases of recovery ranged from nine to twenty-seven days, in the fatal cases from five to thirteen days, omitting the cases of flaring up of the infection after an operation A number of cases of tardy tetanus developing after an operation suggest the necessity for repeating the preventive dose of antitetanus serum as a preliminary to further surgical intervention

67 **Wounds of Bones and Joints**—Gangolphe remarks that a statue at Lyons does honor to the memory of one of its surgeons, A Bonnet, for having introduced the practice of immobilization into the treatment of arthritis "The bronze still stands, but what he taught has been forgotten"
"In the last few years eight out of every ten cases of joint disease that have reached the hospital, had had months of inunctions, and other local applications, heliotherapy, etc., but without immobilization—" the one thing needed

Wounded joints in war require the same thing, a good plaster cast, a plaster trough obviates any constriction The advantage from immobilization surpasses that even from asepsis, he declares In the joint lesions of peace, drainage is merely the complement of operative measures, but in war the operation is usually to provide drainage For the shoulder, elbow, wrist and thigh, resection is "the highest expression of drainage," but this is not the case with the knee He emphasizes the vast difference between wounded joints and diseased joints Only one thing unites them from the therapeutic point of view, namely, the benefit which both derive from immobilization The article discusses wounds of the bones in general and is illustrated

68 **Obliteration of the Lateral Sinus to Arrest Hemorrhage After Wounds of the Neck or Preliminary to Operations**—Lannois and Patel describe the modes of access to the lateral sinus through or back of the mastoid process, and means to obliterate the sinus by tamponing with gauze wicks The wall is easily compressed against the solid background In some cases the sinus was first punctured to ensure a little clotting The anatomy and physiology of the region permit this obliteration, and the results in the twelve cases reported were most gratifying The procedure was applied six times on the right side and six on the left There were no by-effects except, in one case, transient swelling of the superficial veins in the brow The twelve cases are described in detail and the method commended as harmless and liable to prove very useful in removal of the parotid gland or other tumor in the neck. The circulation in the jugular vein is arrested almost entirely, enough for any operation required

71 **Emergency Technic for Transfusion of Blood**—Rendu was able to save by this means a patient almost moribund

from hemorrhage after injury of the thigh A segment of the larger end of a quill was slipped on over the stump of the donor's artery, and the end of the stump was turned back over on the quill, like a cuff, and held with a ligature The stump of the recipient's vein was then slipped over the quill-stiffened artery, and transfusion proceeded smoothly

Presse Médicale, Paris

No 18 1915 XXIII No 56 pp 457 464

72 The Histologic Mechanism of Tardy Rupture of Artery G Petit
73 *The Effect of the War Environment on the Mind and the Healing of Wounds (Les retentissements psycho organiques de la vie de guerre et les soins a donner aux blesses) Haury
74 Study of Paratyphoid Fever Fifty Cases J Lévy Valensi

Nov 25 No 58 pp 473-480

75 Wounds of the Knee. (Traitement des plaies penetrantes du genou) X Delore and Kocher
76 Typhoid in the Vaccinated A Tournade
77 Radiotherapy in Treatment of Certain Traumatic Lesions of the Nervous System R Cestan and P Descomps

Dec 2 No 59 pp 481-488

78 *Pus in the Ventricles of the Brain in Meningitis. (La pyo cephalie cause d'insuccès dans le traitement sérothérapique de la meningite a méningocoques) Chiray
79 Improved Technic for Walking Extension Apparatus for Fractured Femur Lamare

73 **The Environment as Affecting Healing of Wounds**—Haury declares that in the early treatment of the wounded too much attention is liable to be paid to the wound and too little to the man's mental state The wounded are not merely so many pounds of anatomic tissues requiring surgical measures, the brain is a 'trophic center,' and when its balance has been upset by the stress of the campaign and the wound, the man may be unable to rally from even a comparatively simple operation Give the brain time to steady itself, and the man may then be able to stand extensive operations and recover rapidly when this phase of transient blasting of the tissues and brain is past and they have thrown off the psycho-organic reflection of the war environment

78 **Pus in the Ventricles of the Brain**—Chiray explains the failure of serotherapy in certain cases of meningococcus meningitis as due to accumulation of pus in the ventricles of the brain The pus lies there even after the meningitis may have entirely subsided, and this pyocephalus, as he calls it, may lead to a fatal outcome when otherwise the patient would have recovered The inflammation of the ependymal cells, the retention of the purulent fluid with resulting distention of the ventricle walls, and the consequent interference with the communication between the intracranial cavities, cooperate in inducing an unmistakable train of symptoms, usually after the meningitis symptoms have subsided At first it seems as if the meningitis had flared up anew, but resumption of serum treatment is futile The general depression and wasting of muscles are extreme the emaciation surpassing that with almost any other condition The skin is dry and scales off and there is almost constant somnolency or partial coma, with incontinence of urine and feces The tendon reflexes are attenuated or abolished, the pulse accelerated and there may be vomiting The temperature may be normal or of an intermittent febrile type (the brain ventricle type) The symptoms may keep up for from two to five months before the cachexia is fatal, but the whole syndrome could probably be arrested by puncture of the ventricle if done in time In three of Chiray's forty cases of meningitis necropsy revealed this accumulation of pus in the ventricle, and the conditions showed that it might probably have been easily removed by trephining He declares that this is not such a serious intervention as it seems, and it may save many otherwise doomed patients Lumbar puncture in these cases of pyocephalus may reveal that the cerebrospinal fluid is typical of progressing convalescence from the meningitis in contrast to the serious clinical picture Or it may be difficult to obtain any fluid by lumbar puncture If the fluid is still yellow after injection of serum this shows that the latter is shut off from the spinal cavity by some obstruction Another sign of the pyocephalus is the marked contrast between the spinal and the cerebral fluid when the two can be compared

Revue de Gynécologie et de Chir Abdom, Paris

July 1914, XXIII No 1 pp 1 96 Last indexed Sept 12 1914 p 975

80 *Ovarian Pregnancy L Sencert and M Aron
81 Ovarian Dermoid Cyst Taken from Woman of Sixty Four Latteux and Thevenard
82 *Twenty Five Years Operative Treatment of Uterine Cancer C Waegeli
83 Chorio Epithelioma Consecutive to Hydatidiform Mole. Gruget and X Bender
84 Pyelonephritis of Appendicular Origin R. Proust.
85 Colloid Epithelioma of the Transverse Colon No Recurrence in Four Years to Date. R Proust and X Bender

80 **Ovarian Pregnancy**—The development of the placenta and its persistence for two years after the death of the embryo in the case reported illustrate the independence between the development of the placenta and that of the fetus The young woman had long pleaded for operative relief from pains in the pelvis and amenorrhea, but as nothing could be found to explain them the operation was deferred from time to time until a tumor became evident in the region of the ovary The uterus was found atrophied to a considerable extent The patient had an abortion nearly a year after the ovarian tumor had been removed

82 **Operative Treatment of Uterine Cancer**—Waegeli reviews the 358 cases of cancer that have been received during the last twenty-five years in the gynecologic clinic connected with the University of Geneva, Switzerland Only 28 17 per cent were found operable cases The experiences related demonstrate anew that after removal of a cancer of the cervix, when the patient has once weathered the dangerous cape of the third year, she can be regarded as almost certainly definitely cured The limits of operability have been constantly enlarging, but still the proportion of operable cases is lower than in Germany This he ascribes to the energetic propaganda which has been carried on in Germany in favor of early recognition and treatment of uterine cancer Steps in this line have been taken in Switzerland, but the campaign for education of the public has not been waged so vigorously as in Germany

Correspondenz-Blatt für Schweizer Aerzte, Basel

Nov 13 1915 XLV No 46 pp 1441 1472

86 *Lessons from the War in Regard to Organization of the Army Medical Department. (Lehren des Weltkrieges fur unser Armeesanitatswesen) Hauser
87 Ophthalmologic Notes from History T v Speyr

86 **Lessons from the War**—Hauser has made a special study on the spot of the organization of the medical department of both the German and French armies, and summarizes here certain lessons drawn from what he has seen He says that surgical measures close to the firing line are growing constantly more radical as the war progresses, particularly for tangential wounds of the skull, for abdominal wounds, and wounds of the vertebrae and spinal cord The reverse is the case. however, in the base hospitals The German plan of a large medical staff for a whole division is not so convenient or useful, he thinks, as the Swiss and French organization of a separate, small medical staff for each infantry regiment The French have further large corps of stretcher-bearers which are grouped by the divisions, and are distributed for service as occasion arises The organization of the dressing stations and of the transportation force are thus kept entirely separate He thinks that this grouping is less convenient—for Switzerland at least—and that the less tendency to centralization the better

Hauser has been impressed with the lack of preliminary training in hygiene among the medical forces of the army, and expatiates on the necessity for remedying this, saying that defective army hygiene avenges itself as much, if not more, than defective military surgery The advice of trained geologists and engineering experts should also be available He declares that military hygiene can be learned only from actual experience with the troop When the sanitary officer appreciates his task aright he will always have plenty to do even when few of the men require treatment Every troop must have enough sanitary officers to ensure the exact compliance with proper hygiene at all times

The war has confirmed further the advantages of specialist centers and also of large rather than small, scattered hospitals Accommodations for the wounded are easily improvised in school buildings and factories with the aid of the equipment of the hotels in the region The war has further shown that men with certain physical handicaps, even men past the age limit, are able to do excellent work, so that he urges the authorities not to reject any recruits but to train for military service all the possibly available men

Antisepsis has been shown to be indispensable in military surgery, quite different from surgery in peace times The experiences in the various armies with vaccination against typhoid have shown that it certainly has reduced the morbidity, and that the disease is much milder and leaves fewer after-effects Antityphoid vaccination has not been introduced into the Swiss army as yet, hygienic prophylaxis having proved effectual

Deutsche medizinische Wochenschrift, Berlin

Nov 11, 1915, XLI, No 46, pp 1357 1384

88 Typhus Epidemic *(Beobachtungen bei einer Fleckfieberepidemie)* Otto Commenced in No 45
89 *Exanthem and Recurrence with Epidemic Meningitis H Morgenstern
90 Epidemic of Smallpox E Hesse
91 *Tuberculin Does Not Cause Irruption of Tubercle Bacilli into the Blood (Tuberkelbazillen im Blute III) C Moewes
92 Technic for Plaster Casts of Feet and Toes (Der Fuss und Zehenverband) F Schultze
93 Wounds of the Head (Zur Beurteilung der Kopfschüsse) W von Brunn
94 Comparative Ages of Husband and Wife and the Number of Children (Gegenseitiges Alter der Ehegatten und Kinderzahl) F Prinzing
95 *Liquid Petrolatum Cleans Alcohol A Pohl

89 **Recurrence of Epidemic Meningitis** — Morgenstern describes a case of epidemic cerebrospinal meningitis accompanied by an eruption and hemorrhagic patches The exanthem kept up for a week and the meningitis was of moderate severity After an interval of five weeks the whole syndrome returned, but was less severe and subsided earlier There was another case of recurrence among his thirty patients with epidemic meningitis, and here the recurrence was far more serious than the primary attack

91 **Tubercle Bacilli Not Driven Into Blood by Tuberculin** —Moewes examined repeatedly the blood of thirty tuberculous patients under tuberculin but found no evidence that the tubercle bacilli had been mobilized by the treatment None were found in the blood of those who had been taking the tuberculin for some time and only twice after a provocative injection, at the height of the reaction or at necropsy several days later The blood was tested for the bacilli by injection of animals The findings were thus positive in 6 6 per cent under tuberculin In 40 other cases in which no tuberculin had been given, tubercle bacilli were found in the blood in 5 per cent of the cases These figures do not include 10 cases of miliary tuberculosis in which the bacilli were found in the blood in 50 per cent Tests of 22 tuberculous guinea-pigs showed tubercle bacilli in the blood in 64 per cent of the 14 not given tuberculin and in 68 per cent of the 15 with tuberculin

95 **Mechanical Cleansing of Alcohol with Liquid Petrolatum** —A few drops of liquid petrolatum shaken up with the alcohol in a bottle will carry down with the petrolatum all the impurities in the alcohol as it settles to the bottom Or a drop or two of the petrolatum can be rolled around in a shallow tray of alcohol and then lifted out The petrolatum can be seen taking up the impurities, like an enormous phagocyte, as it is rolled around The same method would probably prove effectual also in cleansing any other fluid lighter than the petrolatum

Medizinische Klinik, Berlin

Oct 24, 1915, XI, No 43, pp 1172 1198

96 *Acute Articular Rheumatism and Its Complications in Children B Bendix
97 Influence of the War on the Provision Supply and the Public Health in Germany (Einfluss des Kriegs auf Ernahrung und Gesundheit des deutschen Volkes) N Zuntz Concluded in No 44
98 Treatment of Wounds of Bones and Joints (Schussfrakturen langer Röhrenknochen und Gelenkschüsse im Feld und in der Heimat) W Böcker
99 Epidemic of Dysentery in Poland (Ueber die Ruhrepidemie 1914 1915 auf Grund des Spitalmaterials) M Gieszczykiwicz
100 Deep Electrotherapy—Diathermia—of Duodenal Ulcer M Rubens

Oct 31, No 44, pp 1199 1224

101 Enlargement of Muscles Subject to Cramps (Ueber Muskelhypertrophien hyperkinetischen Ursprungs bei toxischer Polyneuritis) H Curschmann
102 *Experimental Research on Infectious Jaundice (Die sogen Weilsche Krankheit—ansteckende Gelbsucht) Uhlenhuth and Fromme
103 *Scarcity of Milk and Children's Diet (Milchknappheit und Kindernahrung) O Heubner
104 Military Discipline in Hospitals as Factor in Healing of Wounds in War (Lazarettdisziplin als Heilfaktor) W Hellpach
105 Apparatus for Extension with Fracture of the Femur and Injury of Spinal Cord A Partos
106 Filariasis in Russian Prisoners of War E Rodenwaldt and M Bockhorn

96 **Acute Articular Rheumatism in Children** — Bendix remarks that the clinical picture is the same in children as in adults, but that the heart is touched more frequently in children Besides the endocardium and pericardium, other serous membranes may be affected also, especially the pleura and meninges Chorea may precede the acute articular rheumatism by months or years, or may follow it A rudimentary form of acute rheumatism is not uncommon and may pass unrecognized, or the slight and transient disturbances be regarded as "growing pains" The joints may not swell at all in this rudimentary type Acute articular rheumatism is rare in infants, but when it occurs the symptoms usually are restricted to the heart Otherwise unexplainable findings in the heart may be the only manifestation of the disease The heart may be affected in children even in the apparently mildest forms of the disease Children also are liable to have it in an extremely severe form, frequently recurring, and involving the various serous membranes, or the disease may assume a chronic course, affecting the large and small joints, including possibly the vertebrae With complicating chorea, the heart is especially liable to be affected Among other complications that have been observed are meningitis, bronchitis, pneumonia, nephritis, tonsillitis, and purpura near the affected joints Besides the bacteria involved, an inherited predisposition, getting chilled, and a damp house are auxiliary factors in the development of polyarthritis Measures for prophylaxis of the disease and to ward off recurrence are required with special urgency in families known to have a tendency to rheumatism Bendix has found air baths, with dry rubbing, most effectual in hardening children, followed by tepid baths, swimming in a warmed tank and later swimming in a river These hardening procedures may include finally sea bathing and winter sports.

During the acute attack the child must be kept in bed until fever, swelling and pain are gone, getting up too early may bring back the joint trouble anew The affected joints are smeared with oil or ointment and placed on cotton or in a splint He says that the temperature of the sick room should not be above 18 C (64 4 F) The diet during the febrile stage should be milk, vegetables fruit, bouillon and gruels, with lemonade and mineral waters at will, resuming a mixed diet as the fever subsides The salicylates should be given on the same principles as to adults Their action is enhanced by a warm bath followed by wrapping the child up dry and warm The drug is given three times a day until there is profuse perspiration In the severer and the irregular forms the salicylates may fail, and they are of no aid in the heart complications He has never witnessed any serious untoward effects from them in children, so that large doses can be given without apprehension The chronic form requires potassium iodid and local or full electric baths Hot sand, superheated air, mineral mud, mild massage and other local applications may also render good service The heart affection requires the usual measures

102 **Infectious Jaundice** —Uhlenhuth and Fromme announce that this disease can be transmitted to animals and hence that there is a prospect of successful immunization against and treatment of infectious icterus The blood of patients is infectious during the first week, animals could also be successfully inoculated with urine from patients The virus was refound in guinea-pigs in the bile and organs as well as in the blood and urine It was able to penetrate into the

body through the intact mucosa and also through scarified skin

103 **Effect on Children's Development of Scarcity of Milk and Meat.**—Heubner discusses the actual requirements of children for milk, saying that ½ liter cow's milk is ample during the first three months and also after the second year Between these periods, ⅘ liter should be the standard For schoolchildren ⅓ liter is enough He says in regard to meat, that the experiences at the Breslau vegetarian orphan asylum have been permanently favorable The institution was endowed with the understanding that the children were to be brought up without meat They get ⅘ liter milk every day and occasionally a little more, with one egg a few times during the week The rest of the time only vegetable food Dr Steinitz has been in charge of the institution for years and reports that the children thrive satisfactorily Heubner adds that the food supply in Germany during the war, for all ages, suffers from a scarcity of fats, and that housewives would do better to purchase fat rather than meat for their children when they have not means for both

Münchener medizinische Wochenschrift, Munich

Nov 6 1915 LXII No 46 pp 1561 1596

107 *Structure of Callus as Guide to Treatment (Ueber die diagnostische und therapeutische Bedeutung der feineren Details der Frakturbilder) H Wachtel
108 *Antitoxin Content of Serum in Tetanus H Wintz
109 Improved Bile Culture Medium for Diphtheria Bacilli (Ergebnisse der Diphtherieuntersuchung mittels des Galle Serum Nahrbodens v Drigalski und Bierast) K E F Schmitz
110 Poisoning from Celluloid Lacquer in Making Air Craft (Gewerbliche Vergiftungen durch Zelluloidlacke in der Flugzeugindustrie) F Koelsch
111 *Hematuria Without Known Cause. O Weber
112 *Calcium Chlorid Prevents Night Sweats (Chlornatrium und Chlorkalzium als Antihydrotika) H Peperhowe
113 *Apparatus for Testing the Hearing (Neuer Gehormesser) A Stocker
114 Further Experiences with Gas Phlegmons Fessler
115 Orientation Method of Locating Projectiles in Tissues (Die operative Entfernung von Geschossen mittels einer neuen Lokalisationsmethode—Orientierungsmethode) C Kunz
116 Iodin Fumes for Sterilization of Skin and Wounds (Hautdesinfektion und Wundbehandlung mit Joddampfen nach Jungengel) A Bulling
117 Injury of Retina from Air Concussion (Zur Kenntnis der Netzhautschadigung durch erhohten Luftdruck.) A. H Pagenstecher
118 Treatment of Compound Fracture of the Leg E Bamberger
119 Three Day Fever Thirty Two Cases (Eine eigenartige Epidemie.) J Kapp
120 Prothesis for Fractures and Amputations (Eine neue aus Linoleum hergestellte provisorische Prothese fur die untere Extremitat) H Neuhauser (Schultergelenksprothese bei Schlottergelenk mit grossem Humerusdefekt) J Lewy (Ueber Suspensionsbehandlung komplizierter Verletzungen der oberen Extremitat mit Extensionsschiene) W Purrucker

107 **Therapeutic Indications from the Structure of the Callus After Fractures**—Wachtel shows how with roentgenoscopy we are able to tell exactly what processes are going on in the callus as a fracture heals and when simple reduction is all that is needed The shadow of the structure of the callus shows when there is post-traumatic osteomyelitis or osteomyelitic pseudarthrosis Suppuration interferes with the healing process and hence the importance of its early detection and draining

108 **Production of Antitoxin in Tetanus**—The experiences related by Wintz confirm that an antitoxin is generated during convalescence from tetanus but it seems to be in such minute amounts that it offers no prospects for utilization in therapeutics

111 **Hematuria of Unknown Cause**—Weber sifts the literature on 'essential hematuria ' declaring that this term is applicable only when even with microscopic examination of the kidneys no cause for the hematuria can be discovered He then describes a case which he prefers to entitle hematuria from an unknown cause' This patient is a youth of 17 with a history of diphtheria at 3, measles at 5 and scarlet fever at 6, otherwise healthy except for the hematuria which came on suddenly at the age of 2 and has persisted uninterruptedly to date Exercise seemed to benefit and Weber now reports improvement amounting nearly to a cure after an eight months course of reclining at a mountain resort with an hour or two each day spent in walking Calcium lactate (1 gm three times a day) apparently aided in the benefit No cause for the hematuria could be discovered

112 **Calcium Chlorid Prevents Night Sweats**—At least this has been Peperhowe's experience He experimented with sodium chlorid and calcium chlorid, and found the latter most effectual Patients who used to be dripping with sweat at the morning visit were found dry and cheerful under the influence of the calcium chlorid, and they now clamor for it He theorizes to explain its action, one element is the tranquilizing effect on the nervous system, as we know that the night sweats are the result of disturbance of vasomotor control from the influence of the products of the bacteria Other elements in the benefit are the tonic and astringent properties of the calcium salts Be this as it may, no injurious by-effects were noted in any instance, while it displayed an unmistakable tonic influence, he reiterates, justifying its continued use

113 **Water Drop Test for Hearing**—As the water drops on the slanting metal saucer, the metal rings and this affords a means of testing the hearing with greater precision than with the whispering voice The small vessel holding the water can be adjusted at various heights above the metal saucer thus graduating the test It discloses in an unmistakable, objective manner even the slightest impairment in the hearing

Zeitschrift für Geburtshülfe und Gynäkologie, Stuttgart

August 1915 LXXVII No 3 pp 537 790

121 *Care of the Umbilicus (Zur Nabelversorgung) R Muller
122 Present Status of Criminal Abortion (Ueber kriminelle Fruchtabtreibung W Benthin
123 Fat Embolism After Ovariotomy Recovery J Praeger
124 The Scientific Life Work of R von Olshausen G Winter
125 The Mortality from Puerperal Fever Since 1900 P Buess

121 **Care of the Umbilicus**—This communication from the Maternity at Basel in charge of von Herff reports the results of thorough trials of different methods of managing the umbilicus In the last three years among the 5,000 children, there has been no mortality from infection of the umbilicus This Müller declares, is the largest 'clean" series on record In this series the main reliance was on cutting the cord short and using Peruvian balsam

Zentralblatt für Chirurgie, Leipzig

Nov 13 1915 XLII No 46 pp 817 832

126 Advantages of Ventral Decubitus in After Treatment of Laminectomy (Vorteile der Bauchlage in der Nachbehandlung der Laminektomie.) F de Quervain

Zentralblatt für Gynäkologie, Leipzig

Nov 20 1915 XXXIX No 47 pp 827 842

127 Fatal Gangrene of Segment of Intestine Utilized for Artificial Vagina by Baldwin's Technic. H Guggisberg

Gazzetta degli Ospedali e delle Cliniche, Milan

Nov 28 1915 XXXVI No 84 pp 1315 1328

128 The Italian Soldier's Ration (L'alimentazione del nostro soldato in guerra) A Pugliese.

Policlinico, Rome

November 1915 XXII Medical Section No 11 pp 481 528

129 *The Suprarenal Capsules and Lactation (Capsule surrenali ed allattamento) C Verdozzi
130 *Multiple Myelomas with Bence Jones Albumosuria (La malattia di Kahler Bozzolo con illustrazione di un nuovo caso) A Martini Commenced in No 10

129 **Suprarenal Capsules and Lactation**—Verdozzi examined the capsules of virgin and gravid and lactating guineapigs He found that the cortical substance of the suprarenals increased regularly in size and weight during lactation This occurs so constantly he says that we are justified in accepting it as the general rule in mammals and hence can assume that the cortex of the suprarenals represents an important factor in the development and general nutrition of the animal organism

130 **Myelomatosis with Bence-Jones' Albumesuria**—The case of multiple myelomas described was diagnosed first as intercostal neuralgia and then as sciatica, but the pains in

the chest finally suggested ectasia of the aorta and tabes The pains were increased by movements, there was a slightly pulsating tumor at the base of the sternum and roentgenoscopy disclosed dilatation of the arch of the aorta, and the iris and tendon reflexes behaved abnormally The progress of the case, however, especially the appearance of Bence Jones' albumosuria, confirmed the case as a typical example of the systematic affection of the bone marrow, of the nodular hyperplastic-neoplastic type, probably of toxic-infectious origin, with or without involvement of the rest of the blood-producing apparatus The various other diseases that might be confused with it are analyzed and the differential points enumerated for each in turn

Semana Medica, Buenos Aires

June 24, 1915, XXII, No 25, pp 775 802

131 *Effectual Vaccine Therapy of Ozena (Vacunoterapia del ozena) A Quadri
132 Lipomatous Myxosarcoma in the Mesentery A Villanueva

Sept 2, No 35, pp 267 298

133 *Stroganoff's Prophylactic Method of Treating Eclampsia N P Costa
134 Serotherapy of Bubonic Plague III J Moreno

131 **Vaccine Therapy of Ozena**—Quadri relates favorable experiences in thirty-two cases of ozena in which vaccine treatment was systematically applied once a week Seventeen of the patients improved with less than five injections, and only two failed to show benefit

133 **Stroganoff's Method of Treating Eclampsia**—Costa has applied Stroganoff's method alone in 21 cases of eclampsia and in 19 others supplemented by venesection In 13 of the 40 cases it developed during the pregnancy, in 9 during labor, and in 6 after the child had been born Twenty-nine of the women were already in coma when first seen and only 7 were fully conscious Eleven died, but necropsy revealed such serious lesions in most of them that recovery would have been out of the question In 2 of them pulmonary edema was the cause of death, acute anemia in a third The minute details of 40 cases are tabulated for comparison, Costa's impressions being decidedly favorable for the Stroganoff method It certainly reduces the convulsions, and these are the great danger in eclampsia It also gives opportunity and time for needed obstetric measures In short, he concludes, the efficacy and simplicity of the Stroganoff technic render it the best means at our command for management of eclampsia (The method was described in The Journal, July 3, 1909, p 86)

Nederlandsch Tijdschrift voor Geneeskunde, Amsterdam

Oct 16 1915 II No 16 pp 1815 1894

135 The Clinical Importance of the Wassermann Reaction in Neurology and Psychiatry F S Meijers
136 Scraping Center of Nail Thin in Treatment of Ingrowing Nail (Een eenvoudig middel tegen unguis incarnatus) E C Van Leersum
137 Roentgenography in Detection of Subdural Hematoma A M van de Graaf

Oct 23, No 17 pp 1895 1990

138 Favorable Experiences with Roentgenotherapy of Cancer, Fifty Six Cases, Twelve Cures G I Gaarenstroom
139 Rhythm and Metabolism of the Heart Muscle (Rhythmiek en metabolisme van de hartspier) S de Boer
140 Advantages of Plastic Operation on the Conjunctiva to Ward Off Sympathetic Ophthalmia After Injuries (Bindvliesplastiek bij doordringende verwondingen van het oog en de kans op sympathische oogontsteking) A Verwey

Nordisches medizinisches Archiv, Stockholm

1915, XLVII, Surgical Section No 3 Last indexed May 22 p 1803

141 *Treatment of Cleft Palate (Zur Frage von der Behandlung angeb Gaumendefekte) S Hybbinette
142 *Operation for Primary Tumors of the Vertebrae, Ninth Case on Record (Wirbelkorpertumoren) E Key
143 Transpleural Resection of the Cardia and Esophagus J Borelius
144 *Ovarian Tumors Obstructing Delivery S Lindqvist
145 Tumor of the Brain Simulating Eclampsia (Fall von Gehirn tumor) E Alin
146 *Plastic Operations on the Thorax for Pulmonary Tuberculosis (Thorakoplastik bei Lungentuberkulose) C Löwenhjelm and G Nyström
147 *Necropsy Findings after Exclusion of Tuberculous Bladder (Exclusio vesicae bei schwerer Blasentuberkulose) E Key and C Sundberg
148 Uterine Cancer Apparently Cured by Radium Exposures N V Akerblom

141 **Correction of Cleft Palate**—Hybbinette applied Brophy's technic in one case, Langenbeck's in seven, and in eight others a combination of the latter and Lane's technic He operated at two sittings with this latter method and found conditions better when the interval was ten or twelve days Healing was by primary intention and with good anatomic results in all, but functional training in speaking is indispensable to obtain satisfactory results The three technics are compared, with diagrams of each showing the various steps

142 **Primary Tumors of Vertebrae**—Key summarizes and compares eight operative cases with one from his own experience Three of the patients, including his own, did not survive the operation Two others succumbed to recurrence two or ten years later Two others were known to be free from recurrence the tenth and eleventh months after the operation, and Israel's patient was permanently cured The trouble was not recognized until too late in many instances The tumor was an enchondroma in four of the nine cases Metastasis of cancer in the spine generally proceeds from a primary tumor in the breast in women and in the prostate in men Fraenkel called attention to the cloudlike spots in the peripheral portion of the Roentgen picture of enchondroma, but others have not found them so prominent The paravertebral technic seems the most promising mode of access This permits better radium treatment, which he regards as practically indispensable Tumors originating in the vertebrae seem to grow very slowly and to be relatively benign, so that the outlook for a complete cure is good with early Roentgen diagnosis and postoperative radium treatment

144 **Ovarian Tumors Preventing Delivery**—Lindqvist tabulates the details of 116 cases he has found in the literature, 1897-1914, including Keyes', published in The Journal, 1909, lii, 463 Analysis of this material shows that attempts to conclude delivery past the tumor are dangerous and usually futile The ovarian cyst ruptured, with fatal results, in 8 per cent of the 183 cases reported by McKerron Cesarean section supplemented by ovariotomy is the procedure Lindqvist advocates as a rule In his case the woman was delivered by abdominal cesarean section and the dermoid cyst in the right ovary was removed At her second pregnancy the uterus ruptured His second patient was also delivered by cesarean section, the pelvis being completely filled up with an ovarian cyst

146 **Operations on the Chest Wall for Pulmonary Tuberculosis**—The indications for the technic and the results of plastic operations on the chest wall are discussed in this article which reports also four personal cases The impression is decidedly favorable to this method for providing more favorable conditions for the natural healing of a tuberculous process in the lung Improvement was pronounced in two of the cases described, a woman of 30 and a man Ten ribs were resected in the latter case The third patient was a man of 20 and no improvement was evident after resection of a total of 80 cm of ribs except that the amount of sputum was somewhat reduced This patient died about three months later and the necropsy findings are described The fourth patient seemed to be improved at first, the temperature dropped to normal and expectoration was reduced but the woman had an extensive hemorrhage from the lung three months later All were advanced cases and the thoracoplastics was the last resort

147 **Exclusion of Tuberculous Bladder**—In the first of the two cases reported the tuberculous kidney was removed and the patient was restored to clinical health by this and exclusion of the bladder In the other case the kidney was not removed, and the patient has succumbed since to uremia In both cases the opening into the ureter to exclude the bladder answered the purpose perfectly and the bandage held tight No harm seemed to result from leaving the catheter projecting into the ureter for such a long time There was no irritation such as is inevitable when the urine comes in contact with the skin at the mouth of the fistula

The Journal of the American Medical Association

Published Under the Auspices of the Board of Trustees

Vol LXVI, No 3 CHICAGO, ILLINOIS JANUARY 15, 1916

VESICULOTOMY AND VESICULECTOMY

LOUIS E SCHMIDT, M D

CHICAGO

The indications for surgical attack on the seminal vesicles still remain uncertain In the past few years, however, much has been accomplished toward a more thorough understanding, and it appears that more or less definite results following operative interference will permit of establishing strict indications and contraindications Fuller is given credit for insisting on the drainage and perfecting a direct method of procedure for drainage of the vesicles At the same time he has established his views as to the character of cases in which operation should be performed Belfield, who has done more than any one else to point out the conditions arising from diseases of the vesicles, must be equally recognized as a pioneer in this field He has demonstrated a method of draining the vesicles without directly attacking them, in contradistinction to all other methods used with this purpose in view

On account of anatomicopathologic conditions, it may be that vasotomy, even when correctly carried out, may not always be beneficial whenever performed But on account of its simplicity and the magnitude of the direct attack on the vesicles, and also on account of its uncertainty, it should always be considered in all of those cases except those in which it can be ruled out as inefficient at the time of examination It is needless to state that vesiculotomy is not always successful as regards results, and for this reason complete removal, or vesiculectomy, has been advised in selected cases

Tuberculosis of the seminal vesicles caused attention to be drawn to these organs, and operative procedures were developed Only thirty-five years have elapsed since the first vesicles were removed During this time, operations were rather few in number Occasionally some surgeon would become enthusiastic and describe wonderful results, but operations for this condition never became recognized as a necessity We owe to Fuller and Belfield, above all others, our knowledge as regards the gonorrheal inflammation of the vesicles, and particularly their surgical treatment Although the anatomy and physiology of the vesicles have received much attention, it may be said that only recently has the anatomy been thoroughly described Picker has shown the anatomy to be variable — that the tubes may be twisted or straight with or without diverticula, and furthermore that many anomalous conditions are not uncommon

The pathology of these gonorrheal or secondarily involved organs must be similar to that of other organs which are similar in structure Naturally problems concerning the character of the involving organism, whether it is of low or great virulence, whether the course is acute or chronic, whether or not there is occlusion of the ejaculatory duct, whether or not there is formation of sterile pus or involvement of other parts, and many other problems arise Squier reports calculi in the vesicles in a large percentage of cases I have always believed that the prostate is usually, but not necessarily, involved in the course of gonorrhea If the inflammatory process surrounds and causes obstruction to the outlet of the semen, infection easily gains access to an organ thus prepared It may be that no infection takes place at once, but that the occlusion is complete and that calculi will easily develop Of course it may be that infection then takes place, or the reverse and stone formation follows If this is true, and there scarcely can be any doubt that infection of the seminal vesicle permits of systemic infection, this focus should always be considered I believe the importance of this distributing focus has been demonstrated Hence, by virtue of its importance and on account of the great frequency of inflammatory diseases of the vesicle, greater attention has been given to the surgery Here the minute anatomy as well as the rather obscure location has favored their development as well as concealed them, and I am inclined to believe that these facts and not the belief of their inaccessibility were the real cause for the rather late acceptance of surgical interference

It is probable that the direct or indirect drainage of these organs has even as yet not received the attention which will come in due course of time

The observations of others, as well as my own, show that the gonococcus is not the germ which is the one most often found In the acute state the gonococcus may pave the way for secondary infection, but it soon becomes extinct and the secondary infectious germs are the cause of the resultant condition and symptoms In order of frequency these are the staphylococcus, the streptococcus and the colon bacillus I do not mean, however, that the gonococcus is ever absent in the chronic cases In cases of toxemia, whether manifested by involvement of joints or elsewhere, if cultures as well as smears, and finally if the complement-fixation test is negative, how is it possible to conclude correctly that the focus of dissemination is in the vesicles? Furthermore, even if they are pathologically involved, from what I have already stated it can be seen that drainage cannot be ideal and spontaneous cure cannot be expected Is it a wonder that the urologist is giving much time and attention to this subject?

the chest finally suggested ectasia of the aorta and tabes The pains were increased by movements, there was a slightly pulsating tumor at the base of the sternum and roentgenoscopy disclosed dilatation of the arch of the aorta, and the iris and tendon reflexes behaved abnormally The progress of the case, however, especially the appearance of Bence Jones' albumosuria, confirmed the case as a typical example of the systematic affection of the bone marrow, of the nodular hyperplastic-neoplastic type, probably of toxic-infectious origin, with or without involvement of the rest of the blood-producing apparatus The various other diseases that might be confused with it are analyzed and the differential points enumerated for each in turn

Semana Medica, Buenos Aires

June 24, 1915, XXII No 25, pp 775 802

131 *Effectual Vaccine Therapy of Ozena (Vacunoterapia del ozena) A Quadri
132 Lipomatous Myxosarcoma in the Mesentery A Villanueva

Sept 2 No 35, pp 267 298

133 *Stroganoff's Prophylactic Method of Treating Eclampsia N P Costa
134 Serotherapy of Bubonic Plague III J Moreno

131 **Vaccine Therapy of Ozena**—Quadri relates favorable experiences in thirty-two cases of ozena in which vaccine treatment was systematically applied once a week Seventeen of the patients improved with less than five injections, and only two failed to show benefit

133 **Stroganoff's Method of Treating Eclampsia**—Costa has applied Stroganoff's method alone in 21 cases of eclampsia and in 19 others supplemented by venesection In 13 of the 40 cases it developed during the pregnancy, in 9 during labor, and in 6 after the child had been born Twenty-nine of the women were already in coma when first seen and only 7 were fully conscious Eleven died, but necropsy revealed such serious lesions in most of them that recovery would have been out of the question In 2 of them pulmonary edema was the cause of death, acute anemia in a third The minute details of 40 cases are tabulated for comparison, Costa's impressions being decidedly favorable for the Stroganoff method It certainly reduces the convulsions, and these are the great danger in eclampsia It also gives opportunity and time for needed obstetric measures In short he concludes, the efficacy and simplicity of the Stroganoff technic render it the best means at our command for management of eclampsia (The method was described in The Journal, July 3, 1909, p 86)

Nederlandsch Tijdschrift voor Geneeskunde, Amsterdam

Oct 16 1915 II No 16 pp 1815 1894

135 The Clinical Importance of the Wassermann Reaction in Neurology and Psychiatry F S Meijers
136 Scraping Center of Nail Thin in Treatment of Ingrowing Nail (Een eenvoudig middel tegen unguis incarnatus) E C Van Leersum
137 Roentgenography in Detection of Subdural Hematoma A M van de Graaf

Oct 23 No 17 pp 1895 1990

138 Favorable Experiences with Roentgenotherapy of Cancer, Fifty Six Cases, Twelve Cures G I Gaarenstroom
139 Rhythm and Metabolism of the Heart Muscle (Rhythmiek en metabolisme van de hartspier) S de Boer
140 Advantages of Plastic Operation on the Conjunctiva to Ward Off Sympathetic Ophthalmia After Injuries (Bindvliesplastiek bij doordringende verwondingen van het oog en de kans op sympathische oogontsteking) A Verwey

Nordisches medizinisches Archiv, Stockholm

1915, XLVII, Surgical Section No 3 Last indexed May 22, p 1803

141 *Treatment of Cleft Palate (Zur Frage von der Behandlung angeb Gaumendefekte) S Hybbinette
142 *Operation for Primary Tumors of the Vertebrae, Ninth Case on Record (Wirbelkorpertumoren) E Key
143 Transpleural Resection of the Cardia and Esophagus J Borelius
144 *Ovarian Tumors Obstructing Delivery S Lindqvist
145 Tumor of the Brain Simulating Eclampsia (Fall von Gehirntumor) E Alin
146 *Plastic Operations on the Thorax for Pulmonary Tuberculosis (Thorakoplastik bei Lungentuberkulose) C Löwenhjelm and G Nyström
147 *Necropsy Findings after Exclusion of Tuberculous Bladder (Exclusio vesicae bei schwerer Blasentuberkulose) E Key and C Sundberg
148 Uterine Cancer Apparently Cured by Radium Exposures N V Akerblom

141 **Correction of Cleft Palate**—Hybbinette applied Brophy's technic in one case, Langenbeck's in seven, and in eight others a combination of the latter and Lane's technic He operated at two sittings with this latter method and found conditions better when the interval was ten or twelve days Healing was by primary intention and with good anatomic results in all, but functional training in speaking is indispensable to obtain satisfactory results The three technics are compared, with diagrams of each showing the various steps

142 **Primary Tumors of Vertebrae**—Key summarizes and compares eight operative cases with one from his own experience Three of the patients, including his own, did not survive the operation Two others succumbed to recurrence two or ten years later Two others were known to be free from recurrence the tenth and eleventh months after the operation, and Israel's patient was permanently cured The trouble was not recognized until too late in many instances The tumor was an enchondroma in four of the nine cases Metastasis of cancer in the spine generally proceeds from a primary tumor in the breast in women and in the prostate in men Fraenkel called attention to the cloudlike spots in the peripheral portion of the Roentgen picture of enchondroma, but others have not found them so prominent The paravertebral technic seems the most promising mode of access This permits better radium treatment, which he regards as practically indispensable Tumors originating in the vertebrae seem to grow very slowly and to be relatively benign, so that the outlook for a complete cure is good with early Roentgen diagnosis and postoperative radium treatment

144 **Ovarian Tumors Preventing Delivery**—Lindqvist tabulates the details of 116 cases he has found in the literature 1897-1914, including Keyes', published in The Journal, 1909, lii 463 Analysis of this material shows that attempts to conclude delivery past the tumor are dangerous and usually futile The ovarian cyst ruptured, with fatal results, in 8 per cent of the 183 cases reported by McKerron Cesarean section supplemented by ovariotomy is the procedure Lindqvist advocates as a rule In his case the woman was delivered by abdominal cesarean section and the dermoid cyst in the right ovary was removed At her second pregnancy the uterus ruptured His second patient was also delivered by cesarean section, the pelvis being completely filled up with an ovarian cyst

146 **Operations on the Chest Wall for Pulmonary Tuberculosis**—The indications for the technic and the results of plastic operations on the chest wall are discussed in this article which reports also four personal cases The impression is decidedly favorable to this method for providing more favorable conditions for the natural healing of a tuberculous process in the lung Improvement was pronounced in two of the cases described, a woman of 30 and a man Ten ribs were resected in the latter case The third patient was a man of 20 and no improvement was evident after resection of a total of 80 cm of ribs except that the amount of sputum was somewhat reduced This patient died about three months later and the necropsy findings are described The fourth patient seemed to be improved at first, the temperature dropped to normal and expectoration was reduced but the woman had an extensive hemorrhage from the lung three months later All were advanced cases and the thoracoplastics was the last resort

147 **Exclusion of Tuberculous Bladder**—In the first of the two cases reported the tuberculous kidney was removed and the patient was restored to clinical health by this and exclusion of the bladder In the other case the kidney was not removed, and the patient has succumbed since to uremia In both cases the opening into the ureter to exclude the bladder answered the purpose perfectly and the bandage held tight. No harm seemed to result from leaving the catheter projecting into the ureter for such a long time There was no irritation such as is inevitable when the urine comes in contact with the skin at the mouth of the fistula

the other hand, a long-standing case with marked systemic symptoms, in which there is an infiltration of a pronounced type If, as one suspects and finds at the time of operation, there is perivesiculitis, and the vesicle wall is thoroughly riddled with miliary abscesses, one need not hesitate to do a vesiculectomy

In cases of marked infiltration in which the vesicles are adherent to surrounding parts, even in the absence of systemic symptoms, but in which signs of an involvement of the bladder are present, I am in favor of vesiculectomy rather than vesiculotomy Naturally, extirpation may be difficult, it is in my opinion nevertheless, the only correct procedure

To enumerate a few more instances in which operative treatment is absolutely indicated, I may mention those cases complicated with colicky pains, those simulating ureteral or appendiceal colics Infection is usually present, although calculi are to be always suspected in these cases Here removal of stone and drainage or even complete excision may be demanded I believe that the types of cases mentioned are strictly surgical in character, and that the indications for operation are clear

How about the indications and contraindications for operation in all of the remaining cases—those which one meets most often in daily practice? I have already outlined my views, so I need not repeat I have simply expressed my personal views when I state that each individual case must be thoroughly considered I have always hesitated, for instance, whenever nervous or mental symptoms were present Certainly if they predominate, one should be inclined to refuse operation, particularly if the accompanying symptoms are minor in character

That either of these operations is an operation of considerable gravity all must admit, considering the accidents, complications, the acknowledged results, and the necessity as a rule of a general anesthetic It is at present still advisable to be conservative with all cases excepting those mentioned A fair amount of treatment, followed by vasotomy, and further treatment if necessary for all the remaining cases, and then a not too prolonged interval of rest, should decide the necessity of operative interference It is not always possible to advise correctly, even in the types enumerated, at the first time of examination I have frequently seen patients with infiltrated and sensitive vesicles recover fully with the ordinary treatment Again, there are instances in which cases with symptoms of grave character clear up quickly with the usual treatment

In order that there may be no misunderstanding, I wish to refer also to the undisturbed functional results The functional results of the operations on the vesicles have not as yet been thoroughly studied, but my first impression would be that sterility could easily result But the question arises whether this would not result without operation Furthermore, perineal prostatectomies have demonstrated that wide exposure necessitates the weakening of the perineum and the frequent sequence of superinduced symptoms, besides untoward results, such as fistulas with their train of undesirable symptoms In taking all the foregoing into consideration, and if all the treatment has been of no avail, the individual case must be analyzed It is always desirable to classify by considering the predominating symptoms The case may be sexual, urinary, rectal, abdominal, systemic or nervous and mental If, after all treatment has been carried out as suggested, and if the patient still remains a sufferer, I can only advise that every angle again be scrutinized Then and only then should surgical intervention be undertaken

ANATOMY OF VESICLES

In taking up the surgery of the seminal vesicles, there are certain anatomic conditions which must be thoroughly grasped in order definitely to establish operative procedures which may then be carried out with ease and precision

In textbooks the position of the ureter in relation to the ampullae and vesicles is frequently shown incorrectly The upper portion and then only the lateral portion of the vesicle covers the ureter, yet distinctly separated by the capsule of the vesicle and with fat tissue The ureter does not come in contact with the ampulla, but there is a relationship to the ductus deferentes The ureter passes from behind forward to the bladder, and the duct from in front backward, and it necessitates crossing at the lateral bladder wall, where it joins the fundus

The rectovesical fold covers the upper third and in some instances the upper half of the seminal vesicles This depends entirely on their size, distention and lateral degree of divergence In the area of the pars interampullaris it dips downward I wish to state that I have seen gross anatomic specimens in which it has covered the prostate and almost passed downward close to the anus

There is a venous plexus covering the vesicles, and it is connected with the vesicoprostatic plexus The arterial supply comes from the inferior vesical, median hemorrhoidal and deferential Their entrance and distribution are variable, however, most frequently the larger vessel appears to pass downward from the apex of the vesicle

The location of the vesicles and ampullae with the relation of the adjoining parts should be thoroughly understood They are encapsulated, directly over the prostate between rectum and bladder The ampullae run parallel to the median border of the vesicles The ampullae practically come together at the median line and diverge so that at their upper angle they are 6 or 7 cm apart and almost come in contact with the lateral pelvic wall Here both ampullae and vesicles are in contact with the fundus of the bladder, and the lower portions in contact with the trigon Their posterior surface comes in contact with the fascia rectovesicalis or the fascia of Denonvillier, and this is separated from the rectum with little connective tissue Finally, the anatomy of the perineum should be thoroughly understood

SURGERY OF VESICLES

In the development of the surgery of the vesicles, for spermatocystitis, all the surgery which was carried out for tuberculous processes as well as for new growths has been of great help Considering that the vesicles are situated in the pelvis and surrounded by important structures, it is needless to state that many methods of approach were advanced All, however, can be classified as either from above or from below

For our purposes all the methods from above need not be considered Furthermore, the methods of approach from below, the sacral and the ischiorectal, need not seriously be studied It may be true that there may be instances which might necessitate consideration of any one of these I have been fortunate in having had sufficient experience to believe that the perineal route is the route of choice, although it must be admitted that there are disadvantages to this procedure, just as there are to any surgical interference of a major character I may be mistaken, but I am rather inclined to believe that a thorough inspection which permits of exactness permits of accurate incisions into the vesicles or their removal under direct observation, and complete hemostasis is preferable to operative interference which does not allow all of this Fuller maintains otherwise, and with his remarkable results to his credit one could not expect him to do otherwise It is needless to argue the reasons, but when one is sufficiently capable to attach these organs, one must also decide as to whether one prefers the one or the other of the procedures

TECHNIC OF OPERATION

The operative interference which has given me satisfactory results is as follows

1 The patient should be placed in the extreme lithotomy position This appears to me as the most essential point To attempt to do an operation with exactness and ease necessitates that the patient shall be in this position He should also be immobilized

2 The skin incision should be either the semilunar or the inverted V incision, practically extending from tuberosity to tuberosity Other incisions may be made, however, provided good access can be attained

3 The median tendon should be exposed and divided

4 With blunt dissection the fossae either side should be opened and then the urethrorectal muscle divided This then permits of exposure of the prostate and the vesicles which are hidden by the fascia of Denonvillier I have practically always found that surgical interference to the vesicles could then be carried out Squier, however, advises at this stage of the operation that a needle threaded with heavy silk be passed through the tissue at the juncture of prostate and bladder, one on each side By pulling downward and forward, the floor of the bladder with the vesicles covered by the fascia are brought into better view Tenaculum forceps can be used in a similar manner Young has increased the length of his tractor, and passes it through the urethra into the bladder, spreads the blades and exerts pressure in the arch of the pubes, in this manner accomplishing the same thing

These procedures all tend to fix the parts, bring them nearer the surface and allow of easier manipulation Depending on what is necessary, the fascia is picked up with a tenaculum and incised first over one vesicle, and punctures or incisions into the vesicles and their diverticula according to their anatomy are made A drainage tube of small caliber is placed in the vesicle and held in place by being sewed with catgut to the fascia The opposite vesicle may be attached and a portion of the fascia covering the vesicle may be excised, and if found necessary the vesicle can be removed It is desirable to enucleate from above downward and to cut off close to the ampulla Drainage can be placed The muscles and tendon and skin are united, the drainage to pass out at either angle of the skin wound The after-treatment consists of permitting the drain to remain in place from ten to fifteen days

There can be no doubt that injuries to an anomalously placed peritoneum is possible, hemorrhages may occur, ureters may be severed or injured, the bulb injured or its arteries severed, and the urethra, bladder or rectum may be entered In the latter instances fistulas may result, which might demand further attention

5 South Wabash Avenue

THE SIGNS AND SYMPTOMS OF IMPENDING DEATH *

THOMAS F REILLY, MD
Professor of Applied Therapeutics, Fordham University, School of Medicine
NEW YORK

To all men death must come soon or late, and there is an old saying that death always comes unexpectedly But to tell when death will surely occur is the most difficult problem in the whole art of medicine It is quite true that we know that the ultimate outcome of certain diseases, such as hydrophobia, Addison's disease, cancer, etc, is death, and that death will occur within a certain more or less definite period of time, yet when we come face to face with the ordinary serious case in practice, how many of us can say that the patient will die of this disease, or that he cannot recover from this illness and will die shortly? In spite of the millions of observations made on the approach of death, the literature on this phase of the subject is almost nil I am afraid that the public is frequently a better judge of this imminent danger than the physician I am quite sure that women sense the appearance of the fearful scythe bearer much more keenly than do men This is particularly true of the woman relative who nurses the sick one, even though we admit that sometimes she conjures up the grim shadow when there is no cause for alarm If we could mentally see the possibility of death in every severe case, we should less often miss the prognosis

To point out all of the combinations wherein death will almost certainly take place would necessitate the summary of a whole practice of medicine For that reason I shall confine myself rather to a discussion of symptoms and syndromes than to diseases, as there are certain symptoms which are present to a greater or less degree in every sick person In no instances are the signs identical, yet several are common in most cases Most of these signs were noticed by Hippocrates, and, strangely, there have been very few signs added since his time of an occurrence that has been observed by millions of people an innumerable number of times I believe that most of us think that we recognize the onset of death instinctively, but this is not so It must be as a result of previous observations, and it is my endeavor to bring together the facts on which we make this judgment

Most of us are timid in making the pronouncement of death in any case unless the patient is already at the fatal moment, because of the traditional statement about such and such a man who was given up to die, but recovered and eventually outlived the medical jurist who sentenced him to die I believe that the older physicians made this error more than the present day practitioner I know that any one can cite isolated

---

* Read before the Harlem Medical Association, April 5, 1914

instances, extreme cases, in which everything seemed to point to the fact that death was imminent, and yet the patient recovered Such instances will always occur, no matter what principles are laid down, but they are comparatively rare Typhoid fever, cholera, pulmonary phthisis and wet brain furnish exceptions to almost every rule, so far as the onset of death is concerned In the present knowledge of medicine, no one can foretell the sudden fatal outcome in many cases such as develop in the course of myocarditis, cerebral hemorrhage, angina pectoris, nephritis, postoperative thrombi, etc These accidents happen daily in all hospitals Often a patient is just about to be discharged, and he falls over dead with no apparent reason These, however, are rather the exception, and it is not of this class of cases that I wish to speak

Yet the question of being able to foretell in cases of a chronic or subacute, or even acute, character whether the patient will die within a day or two is of the utmost importance In New York no patient may be transferred from one hospital to another who is likely to die within forty-eight hours, and the visiting physician who signs such a transfer commits a misdemeanor and is liable to fine For that reason, in many of our hospitals, patients are kept for weeks and even months because there are signs or symptoms present sufficient to make death a possibility within forty-eight hours This is particularly true of pulmonary tuberculosis

Much has been written on how death occurs, and to discuss this would lead us too far afield Suffice it to say that death usually occurs as a result of (1) failure of heart, (2) failure of respiration, (3) asthenia, (4) vagus failure, or (5) shock, and that almost always the centers in the medulla are the controlling factors rather than the organs themselves In general, the process of death begins at the periphery and ends at the center, so that the symptoms of approaching death are generally first observed at the periphery and later can be traced to the center Smell is the first sense to go, then follow taste and sight, and hearing last

There are few single symptoms pathognomonic of death, but a combination of two or more symptoms will often lead us to make a positive statement as to its approach In the following resume I shall consider those danger signals which commonly precede death When any one of these symptoms is present there are generally others also evident It is well to remember never to give an absolutely fatal prognosis in typhoid fever or cholera so long as there is life left in the body

PULSE

By impending death is meant death within a day or two The pulse has always been considered the most reliable single indicator of approaching death A pulse which is irregular for the first time in disease is a cause for grave alarm, provided it is not due to either sinus arrhythmia or premature contractions, when the patient is in the recumbent position and the pulse disappears from the wrist for the first time, he rarely recovers This is not true in cardiac disease, or in sudden severe hemorrhage, as recovery often occurs after such a disappearance of the pulse In hemorrhage, it is ominous, but if there is no jactitation there is always hope If there is much jactitation present, death practically always occurs whether operation be performed or not Pulsus alternans, when it can be appreciated by the finger (except in some rare cases of cardiorenal disease), always means death within a short interval In cardiac disease it usually means death within at least a month When pulsus alternans can be determined only by instrumental means, the patient may survive for a long time I have noticed a pulse closely simulating this, which has always been followed shortly by a fatal issue There are four or five regular beats of fairly good tension, then all at once the beat will sink under the finger with about one half the tension of the former beats Auscultation shows that it is not due to an extrasystole I have noticed this in patients dying of various diseases, but it has been more common in cases of fractured skull

Except in heart block, a pulse under 80 in an adult means that death in any event is probably at least more than twelve hours off This is not true of the aged A slow pulse is quite often present in these patients up to the moment of death On the other hand, in these old persons a pulse of 140 means death within a few hours at most In children, if the pulse is under 120, death is extremely rare within six hours Even in coma a pulse of 100 usually means that death is at least eight or ten hours off

Of course these statements do not mean that death will occur, but rather that the patient is safe for at least that length of time In an adult, with the exception of paroxysmal tachycardia, exophthalmic goiter, pericarditis and pulmonary tuberculosis, a pulse of 140 continued for more than an hour and not due to some accidental complication means death Except in pericarditis, any pulse gradually mounting to 160 per minute presages a fatal termination In general, in acute diseases a pulse that is steadily increasing in frequency hour by hour portends early dissolution, provided other signs of serious illness are present One cannot foretell the approach of death by the pulse in either the aged or in children with the same degree of certainty as in the adult, likewise the pulse is an uncertain guide as to the termination of tuberculosis Old cardiacs with auricular fibrillation, causing all sorts of combinations of the rate and strength of the pulse are apt to deceive us In such cases, often at first sight it appears as though a fatal outcome is only a matter of hours, yet treatment carries them on to recovery, while the next time the fatal issue may occur with much the same general appearance and symptoms

Cases of auricular flutter deceive every one This is especially true if the patient looks ill Such pulses of 150 or more per minute, with attendant prostration, seem almost incompatible with continued existence The prognosis of an early fatal termination in these cases is a mistake, for the patients often live for months and even years Fortunately, it is a very rare condition, and occurs chiefly in those far advanced in years

In a very sick patient not suffering from cardiac disease, if the pulse disappears from the wrist when the hand is raised vertically above the head, the end can be confidently predicted within twenty-four hours

Gallop rhythm, not associated with rheumatic carditis, is always fatal In the case of a very ill patient whose pulse has been rapid for weeks and then drops down to 50 or 60 with no marked amelioration of symptoms, except in paroxysmal tachycardia, a fatal termination may be expected shortly Persistent firm pulse in coma associated with hemiplegia is a fatal sign In all infectious diseases, a sharp, strong, distinct pulmonary valve sound means that death will not take place for at least twelve hours

BLOOD PRESSURE, RESPIRATION, ETC

At first sight one might think that this would be a valuable means of scenting the universal evil, but unfortunately thus far it has not been of much practical value While it is usually true that in most cases of impending death there is a steady drop in blood pressure, practically it is not possible to have blood pressure readings done as often as would be necessary to arrive at a conclusion In such cases, other symptoms almost always presage the approaching end quite as well We do know that a very high blood pressure—say of 230—which falls suddenly below 100 without any sign of hemorrhage, usually means a fatal issue, and also that a blood pressure in any adult steadily falling to 40 is usually synonymous with a fatal outcome In pneumonia, Gibson's rule, that when the blood pressure falls *numerically* below the pulse rate danger is near, is not always a safe guide It is of more value in young strong adults than in children or the aged

Next to the pulse, the respiration—being of equal import as far as the function of life is concerned—claims our attention I am quite well aware that the Cheyne-Stokes phenomenon does occur in healthy human beings, but the appearance of a well-marked Cheyne-Stokes type of respiration in a sick patient is practically always a sign that death is at the door Very rarely does the patient recover, and only when he is suffering from uremia or cardiorenal disease Less rarely death may be deferred for a few weeks, but it always comes shortly The Cheyne-Stokes phenomenon occurring in auricular fibrillation does not have the same fatal prognosis as in other conditions If the heart will react to digitalis—and it usually does so—the patient may recover and live for many years When it occurs in coma other than uremic coma, it is always a fatal sign Even in uremic coma, recovery is rare In any case, when rapid breathing follows the onset of the Cheyne-Stokes phenomenon, death is at hand From a limited number of observations, it has seemed to me that a relatively rapid breathing—over 40 per minute—during the phenomenon itself means an early lethal termination

A marked disproportion in length of inspiration over expiration is of itself a very suggestive sign When it is coupled with a rapid pulse, except in shock or hemorrhage, the combination is uniformly fatal This type of respiration finds its highest exemplification in the air hunger of Kussmaul in diabetes Continued sighing respiration under the same conditions as mentioned above has almost the same significance In an obviously sick person not suffering from asthma or any mechanical obstruction to breathing, sternocleidomastoid breathing is likewise a forerunner of a fatal issue, and death is seldom long postponed Cold respiration from mouth and nose is generally a terminal symptom

The persistent up and down motion of the Adam's
apple, such as is seen temporarily in normal patients
ves the act of swallowing, in a sick patient, means,
vesicle can to the late Dr John Shrady, a rapidly fatal
from above dce it that the phenomenon is due to a
ampulla Drainage is center It is so commonly asso-
tendon and skin are igns that it is not of much value
at either angle of the ski a sleeping patient The so-called
consists of permitting tlaity is positively a fatal sign
from ten to fifteen days ated with pulmonary edema
s not of itself always fatal, but is generally so In cardiac and renal disease, recovery frequently occurs When it persists for four or five hours, recovery is very rare When it occurs in an unconscious patient, it is always fatal

The presence of black or bloody tinged saliva running out of the side of the mouth in a comatose patient is a fatal omen

In the last few minutes of life, sometimes there is an enormous quantity of white frothy fluid flowing in a steady stream from the nostrils When this occurs, death is only a matter of minutes

EYE

I should consider the eye signs as next in value from a prognostic standpoint In any very sick patient whose pupillary reflexes were previously normal, and in whom there is now no reaction of the pupil to light, death is at hand To this general statement there are some exceptions, namely, in the spinal myosis of the aged, syphilis or its sequelae, brain diseases, optic atrophy, fainting and hemorrhage A sluggish reaction under the same circumstances is serious but not necessarily fatal A dilated pupil under the same circumstances, not reacting to light, means that death is at the door In most diseases, just before death the pupil dilates widely Tennyson states this well when he says, "As unto dying eyes the hollow casement slowly grows a glimmering square," meaning thereby that the dilated pupil is unable to distinguish sharply the window panes

A glazed pupil usually means that death is at hand The presence of a film over the eye is always a fatal sign The death stare or fixed eye is probably due to the dilated nonreactive pupil, although sometimes if the patient's attention is directed to it he can actually count the fingers of the hand It is a fatal sign Tight closing of the eyes with a firm and rapid pulse, excepting in hysteria, is said to be a sign of an impending fatal issue When the eyes are half open during sleep, the patient is not necessarily *in extremis*, but it is a sign of much gravity, especially if it is not due to prostration from diarrhea Passive congestion of the conjunctival vessels in a child means approaching death A tendency of the eyes to turn out occasionally presages death within a few hours

OTHER SIGNS

The facies described by Hippocrates as indicative of approaching death is still as awesome as it was 2,500 years ago When this occurs, death is opening the door, and every one knows his knock There is a noted pallor of the face, with pinched nostrils, sunken and hollow eyes, collapsed temples, cold and transparent ears, with the lobes turned out, dropping of the lower jaw, haziness of the cornea, and the eyes fixed on some object To this picture, the late Austin Flint added the following persistent lividity of the lower lip, spasmodic inspiration not due to hysteria or lung disease, loss of power of swallowing, skin about the forehead rough, distended and pasty, and the face green, black, livid or lead-colored

A temperature of 108 F is not recovered from except in heat stroke A temperature of 107 lasting more than two hours is rarely recovered from A rising temperature on the second day after the occurrence of hemiplegia is fatal A temperature in these cases of 106 at any time within the first three or four days means death The existence of extensive chronic renal disease with a severe continued fever makes recovery a rarity

Loss of sphincter control is always a grave sign, especially when coma is not present. When both vesical and rectal sphincters are paralyzed, recovery is uncommon, except in coma and nervous diseases.

Fifty per cent. of badly coated tongues are serious cases. A tongue with a bright yellow discoloration like the yolk of an egg is a fatal sign in peritonitis.

If when a patient is swallowing food a sound is made like the dropping of a foreign body in a well, there is little hope for the patient. A loud churning noise with each respiration, as if the abdomen contained much fluid, is a fatal sign in the pneumonia of children, and often in that of adults.

The vomiting of frothy mucus mixed with blood, except in acute hemorrhage or in convulsions, is a fairly certain sign of approaching death. A continuous coffee-ground colored vomit, except in gastric ulcer, is also a fairly fatal sign. The black vomit of yellow fever has the same significance. A black vomit coming on forty-eight hours after operation is practically always fatal in its outcome. In apoplectic coma when mucus, not saliva, comes from the mouth at each expiration, a fatal ending is near.

Hematogenous jaundice following fevers, snake bites, typhoid, etc., is generally fatal. Petechiae, especially if large and in an exhausted patient, particularly in cancer or renal disease, mean that the end may generally be expected within a month or two at the most. Aphthous stomatitis in any wasting disease generally means approaching death.

Persistent and uncontrollable hiccup in any serious illness is usually the harbinger of death. Profuse sweating at the commencement of an acute febrile disease, except in rheumatic fever, while the temperature remains permanently high, indicates great weakness and adds much to the gravity of the case. If along with this there is a cyanotic hue of the face, ears and nails, the outlook is extremely grave. The appearance of large amounts of indican in the blood or in transudates is a fatal sign.

The loss of more than half of the body weight means that the patient cannot recover. Gritting of the teeth in the course of fever in adults, unless it be a former habit, is a sign of serious omen. Subsultus tendinum, due to irregular spasm of the muscles, and carphologia are of very grave import, but patients who have thus suffered recover when these occur in the course of typhoid fever. Recovery is rare in other diseases.

In narcotic poisoning and in freezing, the desire of the patient to be let alone is a bad sign.

Convulsions lasting four days are uniformly fatal, excepting occasionally in epilepsy.

Fibrillary tremor of the heart in electric shock is always followed by death.

The disappearance of the peripheral reflexes, except in disease of the central nervous system, is often a harbinger of death.

Edema of the glottis in a patient over 45 years of age is followed by death within a few hours.

Just before death there is a peculiar odor of the breath in many patients. It closely resembles the odor of acetone. It is very difficult to describe this odor, but once noticed it will generally be recognized thereafter. Some describe it as being similar to the odor of horseradish. By others, the odor is described as like that of decayed apple blossoms. The odor of death is not so noticeable in hospital patients as in private practice because the ventilation is different. One appreciates it better when coming in quickly out of the air into a closed sick room.

Aside from the suffering due to pain, the appearance of great mental distress is a bad sign. Of this expression of anxiety, the patient himself is usually entirely unconscious. It would seem as if the body recognized danger when the mind did not. Fortunately, few persons realize that they are going to die. In general, in adults the seriousness of the prognosis depends more on the appearance of mental symptoms than on any other group of symptoms. Whatever the predominant passion was during life is apt to show itself in some way or other during the last few hours. Loss of interest in things that formerly interested the patient is a bad sign.

In any disease, the presentiment of a fatal issue by the patient at the onset is a bad omen. This is particularly true if severe pain is not present. I have often tried to argue with the patient in an attempt to eradicate this seeming delusion from his mind, but in most instances, I am sorry to say, the delusion of hopefulness really existed in my own mind. It gives me a psychic shiver when a patient who is well balanced mentally and who is suffering from a serious but not necessarily fatal illness says "Doctor, I am going to die. I know it." Likewise, when a patient shows no interest in a consultation held over his bedside, there is grave cause for alarm. When a uremic patient becomes jolly and joyous, a serious condition is present, and very often a fatal termination is near at hand.

There is a great deal of folk lore among the laity relative to this subject. Of course, much of it has very little foundation in fact, but many times these sayings suggest to us a fatal prognosis when our ultrascientific methods fail to make us think of the likelihood of death. When the skin over the forehead is tense and shiny, the old nurse wisely shakes her head and says it is a bad sign. When the patient wants to go home or wants to go back to green fields, etc., he generally does, but it is not to the home or the green fields of his youth. When the patient is constantly wishing to be changed from bed to bed, or when in the absence of pain and nervousness he is constantly wishing to change his position in the bed, a serious outcome may be expected. This is a very common symptom of serious import in heart disease if dyspnea is not present. Picking at the bedclothes is usually viewed as a symptom betokening a fatal termination. Excepting in typhoid fever it is truly a sign of great gravity. Shakespeare well describes the death of Falstaff thus:

'After I saw him fumble with the sheets, and play with flowers, and smile upon his fingers' ends, I knew there was but one way, for his nose was as sharp as a pen." Again he speaks of coldness of the ear tips and of the nose, followed later by coldness of the patellae. Old nurses are very apt to call our attention to coldness of the feet and knees when a case has taken a serious turn. Especially is this true if there be a high temperature present at the same time.

The hunger of death is an abnormal appetite occurring in the last few hours or days of life, and probably represents an effort to overcome the sense of exhaustion or goneness in the epigastrium. It is mostly seen, as far as my experience goes, among consumptives, although sometimes it occurs in typhoid fever. Such patients rarely eat much of the food that they order. It is a symptom not often encountered. Sliding down to the foot of the bed is a sign commonly believed to be a bad omen

Left unilateral dropsy, beginning at the foot and extending up the body, is credited with being a harbinger of early death

When a burn involves more than one third of the body, death is a certainty If the burn be confined largely to the face, then a burned area much less than one third of the body means death

In scarlet fever, an ashy tint of the countenance with a purple hue of the nails, distinctive white lines about the mouth, and whispering voice portend early death

In apoplexy, even after the tenth day, if the patient is irritable and restless, death will shortly occur A convulsion occurring in apoplexy generally means death Most of these patients are bathed in a cold sweat just before death

In tuberculous meningitis, it is said that the disappearance of the eosinophils from the blood is a sign that death is very near

Coma is the commonest form of death About 60 per cent of patients die in coma When coma occurs in acute disease, except in typhoid fever and meningitis, one is generally safe in predicting a fatal issue It may not be amiss to mention the forms of death in most acute diseases

Usually, just before the fatal issue there is a lowering of blood pressure This is generally accompanied by increased rapidity of the heart, shortly afterward tympanites becomes marked The patient now looks as though he had been bled excessively and has all the appearances of profound shock The pulse becomes irregular, and this is often followed by delirium, restlessness, hallucinations and later by stupor and coma Occasionally the heart becomes slower, but in most instances its rapidity increases The patient invariably dies when this syndrome is developed

Less often one sees another form of death in acute disease Here the patient is cyanotic and there is great dyspnea The jugulars are full and pulsating and there is often marked pulsation over the heart The heart dulness is increased to the right, and the lower dulness increases downward Rarely is such a patient saved

Finally, when a rattle persists after coughing, the end is near

CONCLUSION

I can only repeat the idea expressed at the commencement, that there is no "no" or "never" in medicine—that occasional patients will present one or many of the signs mentioned above as indicative of approaching dissolution and yet will recover But rules in life cannot be negatived because of occasional exceptions, and in the main the foregoing is a true summary of the subject for the average case

220 West One Hundred and Thirty-Ninth Street

Prizes for Health Posters—The Bureau of Public Health and Hygiene of the Association for Improving the Condition of the Poor of New York City has offered medals and cash prizes to public school pupils for posters to be used for teaching the dangers of spreading disease by sneezing Leaflets giving the particulars concerning the contest have been distributed in all the schools It is believed that this constitutes an excellent plan for stimulating interest in health matters and should bring a very large return for a little money

---

RESUSCITATION BY MEANS OF PRESERVED LIVING ERYTHROCYTES IN EXPERIMENTAL ILLUMINATING GAS ASPHYXIA *

W H BURMEISTER, MD
CHICAGO

The number of accidental deaths resulting from carbon monoxid asphyxiation has increased to a considerable extent within the last decade The proper treatment of patients in whom life is not yet extinct is not universally agreed on This probably, in a measure is due to the fact that clinicians and pathologists are not yet in unison as to the cause of death in these cases Whether death is due to a direct action on the central nervous system by the carbon monoxid, as contended by Sibelius,[1] Traube[2] and many others, or whether the central nervous system changes are secondary to the more evident blood change as contended by Haldane,[3] is still a subject of controversy at this late date It would seem, however, that Haldane's experiments are most conclusive The color change occurring in the blood in cases of carbon monoxid poisoning has long been recognized as characteristic It was in 1864 that Hoppe-Seyler noted the carbon monoxid hemoglobin spectrum That a very definite chemical change takes place in the blood of such patients is not now a matter of dispute The action of the carbon monoxid on the blood is a displacement of the oxygen of oxyhemoglobin by the carbon monoxid The affinity of the carbon monoxid molecule for hemoglobin is 210 times as great as that of the oxygen molecule It is because of this great affinity that erythrocytes will take up carbon monoxid and retain it at the expense of their oxygen content, even though the amount of carbon monoxid present in the inspired air be less than 0 10 per cent Air mixtures containing as little as 0 05 per cent are said to be definitely toxic[4]

Haldane's experiments proved conclusively that death in these cases is essentially one of asphyxiation Hemoglobin, the oxygen vehicle of the blood, ceases to perform its physiologic function because of a relatively stable chemical change Unless an effective restoration of this oxygen carrying power of the hemoglobin can be brought about, or unless some oxygen vehicle can be substituted, death must surely occur If this restoration to the hemoglobin of its physiologic function or the substitution of a new oxygen carrier is delayed too long, secondary asphyxia changes may have occurred in vital parts of the body such as the central nervous system, and these may then result in death, or, at best, recovery with an irreparably defective nervous system The important factor in the treatment of these cases would therefore seem to be to supply the individual with a new oxygen vehicle and to do so as speedily as possible It is interesting to note that as early as 1864 this was recognized by Kuehne,[5] who was remarkably successful in resuscitating animals experimentally asphyxiated with carbon monoxid The clinicians of that day attempted to apply Kuehne's principles practically The method chosen by most of them was the indirect transfusion of defibrinated blood Results were disappointing, probably not so much because of crude technic, but rather, it would seem, because the amount of blood transfused was absurdly small Frequently, because of lack of faith in the new treatment, transfusion was not resorted to until it became absolutely certain that death was imminent Thus Friedberg[6] reports three cases, all ending fatally He suggests the advisability of seeking some method of preserving human blood or of using blood of other animals Mosler[7] reports one case which terminated fatally Martin and Badt[8] succeeded in saving one patient with carbon monoxid asphyxiation by indirect transfusion Wagner and Sommerbrodt[9] are said to have failed

---

* From the Department of Pathology of the University of Illinois

[1] Sibelius Zentralbl f klin Med, 1903, xlix, 111

[2] Traube Verhandl d Berl med Gesellsch, 1865, i, 67

[3] Haldane Jour Physiol, 1895, p 201

[4] Kobert Lehrbuch der Intoxikationen 1906, ii, 869

[5] Kuehne Centralbl f d med Wissensch, 1864, ii, 134

Following Kuehne's work up to 1874, fifteen cases of carbon monoxid poisoning treated by transfusion were reported,[10] six of these successfully, nine unsuccessfully Loewenthal condemns transfusion, advocating instead, as more efficacious, intravenous saline infusion Subsequently, with the perfection of superior technic in direct transfusion in this country, this method of treatment for carbon monoxid asphyxiation was employed In 1900 Darrah[11] reported thirteen direct transfusions in dogs in experimental carbon monoxid asphyxiation with recovery Thirteen control animals died The dogs were transfused with an amount of blood equal to one-fifth to one-seventh their total volume of blood Crile and Lenhart[12] used direct transfusion in experimental carbon monoxid asphyxiation with recovery in 70 to 80 per cent The mortality in the controls in which attempts to resuscitate with all other recognized measures were made was 100 per cent By Crile's method transfusion was not begun until it was without question apparent that all other methods of resuscitation would fail Theoretically success would seem to depend directly on the quantity of transfused erythrocytes and indirectly on the length of time which elapses before the transfusion is begun The difficulty, however, of obtaining donors for transfusion of blood in an emergency, where every minute counts, combined with the necessary delay entailed in the performance of a direct transfusion, even though a most skilled technician and a suitable donor be at hand, must always remain a great obstacle to successful treatment by this method With this in mind, following the appearance of Hustin's[13] and Weil's[14] work on the indirect transfusion of citrated blood, I determined to adopt their method in the treatment of so-called "gas cases "

The following is a preliminary report of the experimental phase of this work Weil[15] transfused blood in amounts of 250 to 1,400 c c , the strength of sodium citrate varying from 0 3 per cent to 1 per cent It was possible to use blood three to six days after it had been obtained Lewisohn[16] has estimated that a 0 15 per cent to 0 2 per cent solution of sodium citrate is sufficient to prevent coagulation of blood in test tubes for a period of three days He further estimates that a total amount of 15 gm of sodium citrate would prove fatal to an individual weighing 110 pounds Lewisohn therefore advises the use of a less concentrated citrate solution rather than the 1 per cent solution as originally used by Weil Rous and Turner[17] have also found transfusions of blood in a citrated plasma occasionally highly toxic for animals By using Ringer's solution containing 2 5 per cent dextrose they found further that erythrocytes could be preserved for a longer period of time than they could in citrated plasma or in citrated Ringer's plasma

The blood used in these experiments was obtained by bleeding dogs from the femoral artery under ether or morphin narcosis This blood was received directly into a sterile flask which contained 25 c c of a 10 per cent sodium citrate solution in water The blood was allowed to flow in until the flask contained 250 c c of blood citrate mixture To this was then added 250 c c of sterile Ringer's solution containing 2 5 per cent dextrose After gently mixing the contents by oscillating, the flask was placed in the dark at + 4 C until the time of its transfusion The bottle and its contents were centrifuged just before transfusion and the supernatant fluid, together with the layer of white corpuscles, was removed This left usually 125 to 150 c c of a rather thick erythrocyte suspension In this manner dogs' corpuscles were kept three or four weeks without any gross or microscopic evidence of deterioration Occasionally the corpuscles of some dogs were slightly hemolyzed, or the corpuscle mixture in the bottom of the bottle became darkly discolored, although the mixture remained sterile After the addition of Ringer's dextrose solution and following slight shaking, the blood usually remained a bright red in color Only such blood was used in the transfusions The rabbit blood used in the series of rabbits recorded below was obtained from normal rabbits by cardiac puncture Because of the relatively small amount of blood necessary in the rabbit transfusions, proportionately ten to twelve times as much Ringer's dextrose solution was added to the blood citrate mixture In this manner the sodium citrate, which undoubtedly is somewhat injurious to the corpuscles after a shorter or longer interval of time (apparently varying with the corpuscles), was very materially reduced in concentration Rabbit's corpuscles thus treated remained intact and were successfully used even after ten weeks Human or other corpuscles treated in this way would undoubtedly remain viable for relatively long periods of time

EXPERIMENTS WITH RABBITS

My earliest work was with rabbits These were placed in an air-tight compartment into which illuminating gas was admitted in amount sufficient to cause death in the controls within five to ten minutes Twenty rabbits, inclusive of the controls, were treated in this way The gas compartment was constructed in part of window glass so that the animal's respirations, and, in addition its cardiac pulsations, could be observed The rabbit's heart would usually continue to beat two to four minutes after its respirations had completely ceased As soon as it was noted that the cardiac thrust against the thorax wall ceased the animals were removed and suspended by their hind legs from a bracket fixture The skin over a marginal vein in one of the ears had previously been prepared for an intravenous injection by removal of hair and cleansing with alcohol While the rabbit was being suspended it was positively determined by palpation that the heart had ceased to beat Rhythmical thorax compression, both for the purpose of artificial respiration and cardiac stimulation was instituted Meanwhile 20 c.c of rabbit's erythrocytes, obtained as previously described were injected intravenously into the marginal vein The reaction in most instances was almost instantaneous

---

[6] Friedberg H Vergiftung durch Kohlendunst 1866 p 166
[7] Mosler Fr Ueber Transfusion defibrinirten Blutes 1867
[8] Badt Verhandl d Berl med Gesellsch 1866 i 301
[9] Wagner and Sommerbrodt Cited by Badt see Note 8
[10] Cited by Loewenthal Wien klin Wchnschr 1892 v 378
[11] Darrah Proc. Path Soc Phila 1900 xxi 29
[12] Crile Hemorrhage and Transfusion 1909
[13] Hustin Ann Soc Roy d soc. med et nat de Brux. 1914 iv, 104
[14] Weil R. Sodium Citrate in the Transfusion of Blood The Journal A M A Jan 30 1915 p 425
[15] Cited by Otenberg Libman Am Jour Med Sc. 1915 cl 68
[16] Lewisohn Surg Gynec and Obst 1915 xxi 40
[17] Proc. Soc. Exper Biol. and Med. 1915 xii 106 and 122

The animal would begin to breathe and the heart would begin to contract in a few seconds most vigorously, despite the fact that previous artificial respiration and cardiac massage had been ineffective The rabbit was released and placed in its cage and usually within three to thirty minutes would nibble at its food, and within an hour was quite as active as before the experiment Full-grown rabbits weighing 1,800 to 2,500 gm were used Twelve rabbits were injected in this way The corpuscles in all cases had been obtained not less than ten days before In four instances they were three weeks old, in two they were ten weeks old These six rabbits recovered, and at this date, four months later, are alive and apparenly normal Of the twelve rabbits treated with erythrocytes, three died One was found dead in its cage fifteen hours after transfusion Necropsy revealed no gross changes other than the typical cherry red color of all the blood-containing tissues Two rabbits died within five minutes following the transfusion Immediate necropsy disclosed an extensive hemorrhage in the peritoneal cavity, undoubtedly secondary to the rupture of some small mesenteric vessel, though the vessel could not be found at the time

From Haldane's work I had concluded that venesection, which has always been recommended in addition to transfusion by the advocates of the latter, was not necessary Illuminating gas may, and probably does contain toxic substances other than carbon monoxid, which can be taken up by the blood and act harmfully on other tissues This being true, extensive bleeding prior to or at the time of transfusion would seem to be indicated From the standpoint of the carbon monoxid content, however, blood removal would not seem necessary The removal of an amount of blood equal to that injected, thus preventing a sudden overloading of a delicate vascular system, would, I believe, have saved the lives of the two rabbits which died with the intraperitoneal hemorrhage Of the eight control rabbits, it was possible to resuscitate one by artificial respiration and external cardiac massage alone

Crile objected to Kuehne's results because by Kuehne's method one could not be absolutely positive that in event of recovery the animals might not have recovered without transfusion This would seem also to be a legitimate criticism to my rabbit series Crile's method, while it assured him that his animals would surely have succumbed had they not been transfused, appeared objectionable because his animals could not be allowed to live more than an hour or two following the resuscitation because of the method employed

EXPERIMENTS ON DOGS

To eliminate such criticism I determined to asphyxiate future animals slowly, taking from sixty to ninety minutes for the procedure, in order to imitate as nearly as possible the conditions under which human beings are asphyxiated and die

Dogs were used in this series of experiments An air-tight compartment 3 feet by 3 feet by 3 feet, made of wood and glass, was used This was fitted with an inlet cock which permitted a regulation of the flow of gas into the compartment The dog was placed in the compartment and sufficient gas allowed to flow in so that complete consciousness was lost in five to ten minutes The dog was kept in the compartment, with the frequent addition of gas, until respirations had unquestionably ceased If this occurred in less than sixty to ninety minutes, the dog was removed and artificial respiration instituted, and if resuscitation in this way was possible, the dog was again placed in the gas filled compartment To insure as nearly as possible complete saturation of the hemoglobin by the carbon monoxid, only such dogs were used for the transfusions as had been in the compartment not less than sixty minutes For a quantitative analysis of blood from such dogs I am indebted to William D McNally, who found saturations of 19 to 40 per cent[18]

My method of artificial respiration was slowly and rhythmically (six to eight per minute) to inflate the lungs with an ordinary foot bellows through a glass tube inserted from the mouth between the vocal cords into the trachea Gunn and Martin,[19] in a recent work, found that they could resuscitate rabbits, following chloroform inhalation, by means of intrapericardial injections of epinephrin, combined with artificial respiration and cardiac massage They were successful in doing this even though the heart had ceased to beat and respirations had been suspended for a period of fifteen to sixty minutes It has been held generally that complete cessation of the blood flow through the central nervous system of mammals for more than fifteen minutes is fatal I determined to supplement my transfusions with intrapericardial epinephrin medication

Forty dogs were used in this second series Preliminary tests to determine the presence of iso-agglutinins or hemolysins were ignored, inasmuch as it was determined to imitate as nearly as possible the conditions of extreme emergency as found when human beings are asphyxiated A rapid and simple method for testing for agglutinins and hemolysins, recently devised by Rous and Turner[20] could, however, probably be completed before the transfusion was begun in a great many cases of human beings Some of these individuals live from ten to twenty-four hours or longer before death occurs

Dogs weighing from 4 to 7 kg were used in these experiments After the dog had been in the gas compartment sixty to ninety minutes and respiration had ceased, he was immediately removed and artificial respiration begun If the heart had ceased beating, or as soon as it did cease (and it ultimately always did cease despite the artificial lung inflation), 1 5 c c to 2 5 c c of a 1 10,000 epinephrin solution was injected directly through the anterior thoracic wall, at the point where the last cardiac thrust had been palpated Following this, in dogs in which the heart had just ceased beating, invariably pulsations would again begin if stimulated by forceful lateral thorax compression from both sides This could usually be done by gripping the thorax with the palm of the hand over the sternum while the fingers were on one side and the thumb on the other side of the thorax By forceful compression the heart could be felt as it slipped in its serous sac between the finger tips and thumb Occasionally a rib was fractured where too much force was exerted However, if resuscitation was ultimately attained this was of little moment in the end-result If the heart could not again be started in this way it was useless to proceed further This was true in the case of eight control dogs of the series[21] Where, however, the cardiac pulsations had not ceased for more than two to three minutes it was usually possible again to start the contractions During all of this time artificial inflation and deflation of the lungs was practiced Frequently at this stage there would be an indication of beginning respiratory effort which might ultimately increase until a breathing rate of 1 to 4 per minute had been established By working rapidly it was possible now to lay bare the external jugular vein, make a small incision and insert into it, before the heart again ceased beating, a small glass cannula The cannula was equipped with a rubber tube attachment which could be fitted on to a large Luer syringe The erythrocyte suspension to be transfused had been previously warmed to 37 C To 100 c c of corpuscles was now added 1 c c of a 1 10,000 epinephrin solution Depending on the size of the dog 125 to 175 c c of corpuscle suspension were then slowly injected into the vein toward the heart While the transfusion was in process about 100 c.c. of blood were allowed to flow from an incision in the vein peripheral to the point of injection It was necessary to work rapidly If the heart again ceased to contract before the transfusion was begun, it was usually impossible to effect a return of rhythmical contractions even though intrapericardial epinephrin injection and cardiac massage were once more resorted to In only two instances out of a total of seven dogs did the continuance of the injection of the corpuscles plus epinephrin start the cardiac contraction Of the five dogs which were not resuscitated by the transfusion after their heart contractions had ceased a second time, it is interesting to note that at immediate necropsy in two cases the right ventricle and auricle were found distended with clots of blood which were distinctly darker than the fluid blood also present

---

[18] The lower percentage by the Palladous Chlorid Method, the higher percentage by Haldane's Colorimetric Method 380 c c of carbon monoxid gas was obtained at 0 C 760 mm pressure, per 100 c c of blood Human beings who have died of carbon monoxid asphyxiation possess blood containing 5 to 28 per cent as determined by the Palladous Chlorid Method

[19] Gunn and Martin Jour Pharmacol and Exper Therap, 1915, vii, 31

[20] Rous, P, and Turner, J R A Rapid and Simple Method of Testing Donors for Transfusion, The Journal A M A, June 12 1915 p 1980

[21] One of these at necropsy was found to have an extensive fresh intraperitoneal hemorrhage

Fifteen dogs in which the transfusion was begun before the heart had again ceased to pulsate lived Five control dogs, in which it was possible to stimulate a return of cardiac and respiratory activity as above, in which, however, no transfusions were performed, died within two to four minutes following the temporary resuscitation Four control dogs in which 125 c c of Ringer's dextrose solution plus epinephrin were injected intravenously instead of the corpuscle suspension, died within from three to five minutes after the intravenous injection, despite the fact that cardiac contractions had again been established, as had also a return of the respiration

Of the fifteen dogs that lived following the erythrocyte transfusion, two failed to regain consciousness One died after thirty-six hours, of coma It is interesting to note that at necropsy the right heart was found distended by a bright cherry red fluid blood in which were many small, dark or black, irregularly-formed coagula The branches of the pulmonary artery contained here and there fragments of such coagula, though there were no gross evidences of lung infarction The second dog which failed to regain consciousness lived twelve hours This dog was ill before experimented on, but was used because of a scarcity of available dogs at that time At necropsy a severe purulent rhinitis and purulent bronchitis and lobular pneumonia were found The remaining thirteen dogs recovered consciousness usually before the vein had been tied or the skin suture completed They either lay quietly or staggered about unsteadily On the following morning they were apparently normal except for local reactions about the neck wound One of the thirteen dogs appeared abnormal mentally immediately following the experiment Following his transfusion and removal from the table he was able to run about quite vigorously However, he snapped and bit at inanimate objects, ate his feces and four days following his transfusion killed and partially disemboweled one of the other transfused dogs in his cage He had to be killed before he could be removed from the cage. I regret to say that his brain was not examined Five of the transfused dogs were killed seven to ten days after their transfusion because of a severe cervical cellulitis due probably in part to imperfect surgical asepsis at the time of transfusion Aside from their local infection, the dogs apparently had recovered from the experimental asphyxia The six remaining dogs showed no after-effects either direct or indirect

From the foregoing it will be noted that of the fifteen dogs transfused, twelve recovered with apparently no ill after-effects that could be attributed to the asphyxia Two of the fifteen transfused dogs died without regaining consciousness One of these was probably fatally ill before the experiment From necropsy findings of the second it might be suggested that death may have been due to agglutinins in his blood for the corpuscles with which he was transfused The third dog developed symptoms quite typical of the manias sometimes seen in human beings following acute carbon monoxid asphyxiation The possibility of an incidental rabies in this animal cannot, however, be ruled out, because the animal was disposed of before the brain could be examined

The erythrocytes used in these transfusions had been preserved from three to seventeen days Two dogs were transfused with corpuscles obtained seventeen days earlier, one dog with sixteen-day corpuscles, three with fourteen-day corpuscles, four with six-day corpuscles, and five with three-day corpuscles The two dogs which died without regaining consciousness and the one which developed maniacal symptoms had been transfused with three-day corpuscles Observations to detect hemoglobinuria, temperature disturbances, changes in the microscopic blood picture, etc , were not made All of the control animals died

CONCLUSIONS

Erythrocytes of some animals can be preserved intact over extended periods of time

These corpuscles can again assume their physiologic function in another animal of the same species, and can successfully prevent death in carbon monoxid asphyxiation of this second animal, in about 75 per cent. of all cases in which indirect transfusion is begun while cardiac contractions can still be elicited

The establishment of emergency stations where human erythrocytes could be obtained, just as pulmotor stations are now being maintained, should prove of invaluable service in saving the lives of human beings the victims of illuminating gas asphyxiation

---

FOOD POISONING BY THE BACILLUS PARATYPHOSUS B

AN EPIDEMIC DUE TO THE ORGANISM ISOLATED FROM PIE

HARRY S BERNSTEIN, M D
Pathologist, Rhode Island State Board of Health

AND

EZRA S FISH, M D
Assistant Pathologist

PROVIDENCE, R. I

During July, 1915, an epidemic of food poisoning occurred at Westerly, R I , and in an adjacent township of Connecticut The epidemic was characterized by symptoms of an acute gastro-enteritis The symptoms followed the eating of pie, which was obtained at a restaurant in Westerly It is estimated that sixty persons were made seriously ill, four of whom died

At the inquiry, many witnesses testified to having eaten pie, purchased from the restaurant in question, and yet remained unaffected It was, nevertheless, firmly established that all those who were affected traced their symptoms to the pie The owner of the restaurant stated that the dough was mixed Friday, July 2, and that a batch of pies was made on the following day for Sunday and Monday This batch consisted of coconut-custard, custard, squash, lemon, chocolate, berry and apple pies The preparation of these food products differed in no way from that employed for many years previously

The symptoms appeared from twelve to nineteen hours after eating In some cases the symptoms appeared as early as four and a half hours They were characterized by epigastric pain, a burning sensation from fauces to stomach, extreme thirst, and spasmodic contractions of the calves of the legs. Vomiting was a constant symptom and was of about six days' duration. The vomitus was green. Diarrhea was also present and was associated with tetanus. The stools were of a pea-soup consistency, greenish, and extremely foul smelling. The green color of the stools persisted for many days. The number of the dejections varied from ten to twenty daily. The temperature was elevated, reaching 103 in some cases. The pulse was normal. Two of the patients had a herpetic eruption around the mouth, and in one other a generalized erythema appeared for twenty-four hours. One child of 8 was rendered unconscious for two or three days, and presented a marked rigidity of the neck. In one of the fatal cases, there was a suppression of urine. Most striking of all was the mental depression. Convalescence was protracted.

Two men and one woman died within four days after the onset of symptoms. The fourth person, a man, died three weeks later. The persons who died were all beyond middle age. The first fatal case was that of a man aged 49. Symptoms of marked severity came on seven hours after eating and proved fatal in thirty-six hours. Two other members of the family, who had eaten pie at the evening dinner, became ill, whereas four other members, who had not had any pie, were unaffected.

There was no unusual taste or odor to the pies to excite suspicion, and the symptoms followed the eating of all the different kinds of pie of which this particular batch consisted. The gradual increasing number of cases of poisoning gave rise to much alarm. The State Pure Food and Drug Commission united with the officials of the State of Connecticut to determine the cause of the epidemic. Sanitary surveys were made, samples of pies and materials used in their preparation were submitted for chemical analysis. Prof. Clifford B. Morrison of the Connecticut Experiment Station reported the absence of arsenic or heavy metals and of poisonous alkaloids or other organic compounds. A similar report was made by Prof. Franklin N. Strickland of Providence. Samples were also submitted to our laboratory for examination. It is noteworthy that the laboratory investigations were conducted after the acute stage of the epidemic had passed. No field work, which might have enhanced the value of this epidemiologic study, was rendered possible.

The following samples were received in half-pint jars, partially filled: (1) milk, (2) dough, (3) pie-shortening, (4) coconut-custard pie, and in addition there was a small quantity of (5) egg flour, contained in a paper package. The small amount of material precluded any attempt to isolate a ptomain by chemical means. Accordingly, the bacterial content of the specimens merited inquiry.

The milk had a sour odor, a moderate amount of curd was formed. Smears from centrifugalized portions showed a few cells, no streptococci were present. The bacterial count was 7,820,000 organisms per cubic centimeter. Smears were made direct from each of the four remaining specimens, bouillon, plain-agar slants, dextrose-agar stab cultures, and plates of plain-agar, dextrose-agar, and Endo medium were inoculated. Anaerobic cultures were also made, and some of the inoculated mediums were incubated at room temperature. One c.c. of each of the four bouillon cultures, containing the initial bacterial growth, was injected into the peritoneal cavity of guinea-pigs. The two animals, inoculated with the growth obtained from the pie mixture and dough, died after eighteen hours. Postmortem examination revealed marked edema of the abdominal wall and a diffuse peritonitis. Cultures from the heart's blood showed a mixed infection in which the *Bacillus coli communior* and streptococcus were present. The guinea-pigs inoculated with the bouillon cultures, derived from the pie shortening and egg flour, survived.

The twenty-four hours' growth on the Endo plates, which were seeded with an emulsion of the pie, contained a mixture of red and of transparent, colorless colonies. The latter were transplanted on slant-agar. They yielded a profuse growth of gram-negative bacilli. These bacilli in subsequent cultures showed a slight tendency to pleomorphism. They possessed motility and showed the following cultural characteristics: Litmus milk at first became slightly acid, the acidity giving way to a permanent alkalinity. Gelatin was not liquefied, but gas was produced therein. With Hiss carbohydrates serum-water mediums, dextrose, lactose, galactose, mannite and maltose showed acid and gas formation; lactose, saccharose, dextrin and salicin were unchanged.

An eighteen-hour bouillon culture of the organism, thus isolated from the pie mixture, and termed for convenience "Strain 4," was employed in the determination of its pathogenicity. Three animals were each inoculated with 1 c.c.: one rabbit subcutaneously, one guinea-pig subcutaneously, and one other guinea-pig intraperitoneally. The two guinea-pigs died over night. A diffuse peritonitis was present in each animal. The organism recovered from the heart's blood and peritoneal cavity possessed the same cultural characteristics as the one injected. It was a gram-negative, motile coccobacillus, producing colorless transparent colonies on Endo plates and a permanent alkalinity in litmus milk. The rabbit died seventy-two hours after injection. Cultures taken from the heart's blood and peritoneal cavity, twenty-four hours postmortem, were in turn transplanted on Endo plates. Colorless colonies were obtained identical in character with Strain 4.

Feeding experiments were also performed. A kitten was fed with portions of the pie and suffered no ill effects. Another kitten was fed on sterile milk, which had previously been inoculated with Strain 4. A mild enteritis resulted.

Through the courtesy of Dr. A. S. Briggs of Ashaway, a specimen of blood was received from a patient, aged 20, who "had quite severe symptoms after eating pie." The blood was collected twenty-four days after the onset of symptoms. It is particularly noteworthy that this patient gives no history of any illness of over two or three days' duration prior to the attack of food poisoning. The blood serum from this patient agglutinated the typhoid bacillus, the paratyphoid bacillus B and Strain 4 in the dilutions of 1:10, 1:40, 1:80, 1:100 and 1:200 (the latter dilution showed partial clumping). The paratyphoid bacillus A was agglutinated only in dilution of 1:10. The patient's serum also agglutinated the organism recovered from the hearts' blood of the guinea-pigs and of the rabbit which had been inoculated with Strain 4. Moreover, Strain 4 was agglutinated by an antityphoid serum.

Thanks to Dr. G. T. Swarts, ten dried specimens of blood were received from individuals who similarly had suffered ill effects from eating the pie in question. The specimens were collected one month after the onset of symptoms Five of the specimens caused complete agglutination of Strain 4, three produced partial clumping, and two were negative The question whether the organism isolated was capable of producing a soluble toxin invited solution Accordingly a forty-eight-hour bouillon culture of Strain 4 was filtered through a Berkefeld filter Two guinea-pigs and one rabbit were each inoculated with 1 c c of the bacteria-free filtrate The animals developed no symptoms Two animals were used as control, one guinea-pig was injected with sterile bouillon, and one other guinea-pig with the bouillon containing the growth of Strain 4 The latter died over night All other observations were similarly controlled and repeated In each instance, the observations found corroboration

It is to be recalled that of the mixed cultures made from the ingredients of the pie, the bouillon inoculated with the dough proved fatal to a guinea-pig, as did the mixed culture from pie The animals died either from the toxins in the food products or from the organisms present It may well be assumed that Strain 4, if present, may have been overgrown by the streptococcus and the *Bacillus coli communior* Since Strain 4 has been isolated only from the pie, the presumptive evidence is that the dough, also, contained the organism

Thus the organism isolated from the pie mixture possesses the morphologic, cultural, pathogenic and immunologic characteristics of the Salmonella group This group is composed of the *Bacillus paratyphosus* B, the *Bacillus suipestifer* and the *Bacillus enteritidis* Gaertner It is noteworthy that the German school regards the *Bacillus paratyphosus* B, and the *Bacillus suipestifer* as identical species, applying the former designation if derived from human sources, and the latter if derived from animal sources The English school, however, by means of agglutination and absorption tests, distinguishes between the two organisms These tests of necessity were applied to Strain 4, as there was no opportunity forthcoming to determine the source of the food infection

Rabbits were accordingly immunized against Strain 4, the *Bacillus paratyphosus* B, and the *Bacillus suipestifer* A culture of *Bacillus suipestifer* was obtained through the courtesy of the American Museum of Natural History, New York Three intravenous injections of a twenty-hour bouillon culture of each of the three organisms were administered to rabbits at fifteen-day intervals The animals were bled approximately one week after the last inoculation The first injection consisted of 0 001 c c of the living culture, the remaining two of 0 01 c c Rabbits injected with Strain 4 succumbed shortly before the second injection became due The organism was recovered from the heart's blood and stools Fortunately it was possible to obtain blood from one rabbit after it had survived a second injection of Strain 4 At that time the animal had a paralysis of the lower limbs and of the urinary bladder This may account for the relatively low titer in the agglutinating properties of the serum

The accompanying table indicates the agglutinating powers of each serum against Strain 4, the *Bacillus paratyphosus* B and the *Bacillus suipestifer*, also the effect on the specific agglutinin and co-agglutinins of each serum after saturation with each one of the three organisms in question The similarity of the serum reactions, thus made evident between Strain 4 and the *Bacillus paratyphosus B* establishes definitely the identity of the former The *Bacillus enteritidis* Gaertner was not agglutinated by any one of the immune serums

It will be noted, however (under heading 2), that Strain 4 does not remove all the agglutinins for the *Bacillus paratyphosus* B from a paratyphoid B serum Repetition of the test yielded constant results A similar anomalous reaction is recorded by Hutchens and Tulloch[1] in a strain of the *Bacillus paratyphosus* B isolated from yeast in a brewery This yeast had been used as food for farmyard animals and produced symptoms of an acute enteritis

The agencies whereby the *Bacillus paratyphosus* B gained access to the pie must of necessity remain a matter of conjecture The cases of poisoning were limited to persons who purchased the food-product at this Westerly restauratnt There had been no change in the personnel of the restaurant for several months, which makes the restriction of the epidemic in point of time difficult to explain If we accept the view of Bainbridge, the infection originated from a human source, possibly a paratyphoid carrier

The distribution of the *Bacillus paratyphosus* B in nature has given rise to much discussion In Germany, bacilli of the paratyphoid group have been isolated from milk by Fischer (1903), from water by Conradi (1904) and by Priefer and Keyser (1902), from sausage by Hubener (1908) and by Rommeler (1909), and from goose by Sobernheim (1911) Moreover, Uhlenhuth (1908) and Seiffert (1909) have obtained the organism from the intestinal contents of healthy pigs[2] It was noted by Conradi that food containing these organisms could be eaten by human beings without the production of untoward symptoms Morgan, Savage and Bainbridge, however, have obtained negative results in the examination of pigs' feces

TABLE OF ABSORPTION TESTS

Serum	Agglutination Limits for		
	Strain 4	B Paratyphosus B	B Suipestifer
1 Strain 4, original titer	1 600	800	100
Absorbed with B suipestifer	1 600	400	<100
Absorbed with B paratyphosus B	<100	<100	<100
Absorbed with Strain 4	<100	<100	<100
2 Bacillus paratyphosus B, original titer	3 200	6 400	1 600
Absorbed with B suipestifer	800	6 400	<100
Absorbed with B paratyphosus B	<100	<100	<100
Absorbed with Strain 4	<100	800	<100
3 Bacillus suipestifer original titer	1 600	800	6 400
Absorbed with B suipestifer	<100	<100	<100
Absorbed with B paratyphosus B	<100	<100	6 400
Absorbed with Strain 4	<100	<100	6 400

The prevalence of the organism in man has been the subject of much investigation Conradi found the bacilli present in twenty-nine cases out of 250 typhoid convalescents, in patients suffering from tuberculosis and other diseases, and in healthy individuals Prigge and Sachs-Muke[3] examined the stools of 5,252 individuals and found the paratyphoid bacilli present in 108 cases, only thirty-eight of which showed symptoms of paratyphoid infection Hubener and Viereck, in an examination of the stools of 4,000 soldiers, encountered the organism thirteen times in individuals who never presented signs of paratyphoid fever Hubener recovered the organism twice in seventy-five examinations of the nasopharynx[4] Negative findings, however, were obtained by Sobernheim, who searched for the *Bacillus paratyphosus* B in 1,000 samples of feces of normal individuals, by Seiffert who examined 600 specimens of feces, and by Morgan in a study of 303 stools from children[5]

---

[1] Hutchens H J and Tulloch W J An Anomalous Strain of B Paratyphosus (B) Jour Path and Bacteriol 1913 1914 xviii 431

[2] Quoted from Bainbridge F A and O Brien R A On the Paratyphoid Group of Bacilli Jour Hyg 1911 xi, 68

[3] Prigge and Sachs Muke Paratyphusbazillenausscheidung bei Kranken und Gesunden Klin Jahrb 1909 1910 xxii 257

Bainbridge and O'Brien, in criticism of the findings of German investigators, have submitted the organisms which the latter isolated from varied sources to absorption tests As a result, the organisms fall into two groups The first group, the *Bacillus suipestifer,* consists of those strains which were derived from food or food-poisoning cases The second group, the *Bacillus paratyphosus* B, was obtained from cases of paratyphoid fever or chronic carriers Bainbridge and O'Brien are disposed to regard "the human alimentary canal (including the bile passages) as the normal habitat of *Bacillus paratyphosus* B, while admitting that paratyphoid 'carriers' may cause infection not only directly but also by contaminating sound food, just as is the case with typhoid carriers Under these circumstances, it is to be expected that the bacilli may occasionally be found in food, polluted by a carrier, although they have not met with such an instance "[2] Moreover, they are convinced that the presence of the *Bacillus paratyphosus* B in healthy human beings is unknown in England In this connection, the findings of Bonhoff are of unusual interest In the bacteriologic examination of the heart's blood in 6,476 cases at necropsy, he isolated the *Bacillus paratyphosus* B from twenty-nine cases Five of the twenty-nine cases fall into a group which the author classifies as bacteremia as a coincident finding (*reine Bakteriamien als Nebenbefund*) This group comprised one case each of senility, pulmonary tuberculosis and chronic alcoholism, and two cases of inoperable carcinoma[6]

The importance of carriers of paratyphoid bacilli has been further emphasized by epidemics which owe their origin to them Thus, Konrich[7] described an epidemic of paratyphoid fever affecting forty-four children in a surgical ward A young girl, recently admitted to undergo treatment for rachitis, was held responsible because of the presence of the organisms in her stools A similar outbreak of paratyphoid (B) fever, verified bacteriologically, involved sixteen surgical cases at a hospital in Roanoke, Va[8] A colored boy who was employed as a helper in the kitchen was the probable source of the infection, "which was spread by finger conveyance from case to case in the wards " The first outbreak in England of an acute gastro-enteritis due to the *Bacillus paratyphosus* B is recorded by Bainbridge The symptoms were identical with those described in the Westerly epidemic Fourteen persons in four households became seriously ill The organisms were isolated from two specimens of stools, and their identity determined by absorption tests No food was held responsible, as the dates of onset varied The exchange of visits between the households at the time of the epidemic suggests strongly the intervention of a carrier[9]

In addition to the infections by contact mentioned above, there are epidemics recorded in which food material proved to be the vehicle of infection, because of contamination by paratyphoid carriers Sacquepee and Bellot describe an epidemic of paratyphoid fever affecting nineteen in a French army corps of 250 The cook in camp had recovered a short time previously from an attack of paratyphoid fever His blood agglutinated the *Bacillus paratyphosus* B, which persisted in his stools[5] Similar epidemics of paratyphoid fever occurred in various Japanese camps on the island of Waiawa A native who brought vegetables to these camps proved to have the bacilli in his stools, although he gave no history of any illness during the two previous years[10] Of forty-five individuals who were taken sick after drinking some light beer, thirty-three agglutinated the *Bacillus paratyphosus* B, and in the stools in eight cases, the organism was present It is supposed that the brewer had infected the product, which was of domestic manufacture[11] French pastry was productive of acute symptoms in thirteen cases The baker of the pastry was a recent convalescent from an attack of paratyphoid fever, which he had contracted from his son The organisms were found in the urine of the baker The food itself was not available for bacteriologic examination[12] A fatal case, that of a private in the German army, yielded the *Bacillus paratyphosus* B in cultures from the intestinal contents, urine and spleen The clinical symptoms were most acute in character At the same time, there were among the civil population twenty cases of food poisoning due to the ingestion of sausages From the stools of one of the victims, the *Bacillus paratyphosus* B was isolated[13]

It may not be amiss to cite two other epidemics of food poisoning in which the organisms were recovered from the food product Fried eel was responsible for symptoms in a family of six Paratyphoid bacilli were obtained from specimens of the eel The organisms were more numerous, however, in the center of the fried portions[14] Most noteworthy of all is the food infection which occurred at Wrexham, England, in August, 1910 Many of the features of this epidemic was strikingly similar to ours at Westerly[15] One hundred and seven persons in fifty-six families became seriously ill as the result of eating pork pies Of this number five died The symptoms were those of an acute gastro-enteritis, associated with herpes and mental depression The pork pies originated from the same bakeshop The *Bacillus paratyphosus* B was found in two specimens of suspected pork pies, and agglutinins for the organism in five persons who had eaten the pie in question[16] The organism was also found in the stools of the head cook She gave no history of ever passing through any typhoidlike illness, and to the best of her belief, she had never before caused a similar outbreak

---

[4] Quoted from Job, M E Les infections à paratyphus B etude nosologique et epidemiologique, Rev de med, 1913, xxxiii, 181

[5] Quoted from Bainbridge, F A The Etiology and Epidemiology of Paratyphoid Fever and Food Poisoning, Proc Roy Soc Med, London, 1910 1911, iv, Epidemiolog Sec, p 51

[6] Bonhoff, F Ueber Paratyphusbazillenbefunde an der Leiche Virchows Arch f path Anat, 1914, ccxvi, 321

[7] Konrich Eine Paratyphusepidemie in einem Krankenhause, Klin Jahrb, 1908, xix, 247

[8] Lumsden, L L, Freeman, A W, and Foster, W B Paratyphoid Fever Report of an Outbreak in a Hospital at Roanoke, Va, Pub Health Rep, 1913, xxviii, 1041

[9] Bainbridge, F A An Outbreak of Gastro Enteritis Due to B Paratyphoid B, Brit Med Jour 1910 ii, 1515

[10] Sinclair, A N An Epidemic of Paratyphoid Fever, Origination from a Carrier and Dissemination by Vegetables, Am Jour Trop Dis and Prev Med, 1914, i, 612

[11] Kling, C, and Petterson, A Verbreitung von Paratyphus und ähnlichen Darmkrankheiten durch Dunnbier Centralbl f Bakteriol Part I, 1914, lxxiv, Orig p 467

[12] Prigge and Sachs-Muke Beobachtungen bei zwei Nahrungsmittel verursachten Paratyphusepidemien, Klin Jahrb, 1909, xxi 225

[13] *Oesterlen, O Zur Kasuistik* der Paratyphus B, Deutsch mil ärztl Ztschr, 1911, xl, 655

[14] Müller, R Fischfleischvergiftung durch Bakterien der Paratyphus Enteritisgruppe, Munchen med Wchnschr, 1914, lix, 471

[15] Williams, D L *Food Infection at Wrexham,* Jour Roy Inst Pub Health, London, 1910, xviii 725

[16] Trommsdorff R Rajchman, L., and Porter, Agnes E A Severe Outbreak of *Food Infection* Caused by a Paratyphoid Carrier Jour Hyg, 1911, ii, 89

It must not be overlooked that food may continue to harbor active pathogenic organisms, even after subjection to cooking temperatures Of course, the method of preparation and the physical character of the food determine the extent of penetration by heat In the interesting experiments performed by Sawyer,[17] it was shown that a pan of spaghetti baked for half an hour in an oven, the temperature of which ranged between 207 and 214 C, had a temperature of only 28 C in the middle, and 48 C near the bottom The spaghetti had been inoculated, for the purpose of investigation, with a culture of typhoid bacilli Living bacilli were recovered from a depth of 2½ inches

SUMMARY

The purport of this communication is

1 To record an outbreak of food poisoning due to the *Bacillus paratyphosus* B which affected sixty individuals, of whom four died

2 To indicate that the vehicle of infection was pie, from which the organism was isolated

3 To emphasize the necessity of protecting public food supplies from "disease carriers"

MULTIPLE METASTATIC SARCOMAS OF THE LUNGS

WITH REPORT OF A CASE

OLIVER P HOLT, MD
Senior Physician, Cincinnati General Hospital
AND
HELENA T RATTERMAN, AM, MD
House Physician Cincinnati General Hospital
CINCINNATI

Sarcoma of the lung whether primary or secondary is very rarely found So few cases come under the observation of any one individual that the study of sarcoma of the lung depends almost entirely on reported cases The literature on the subject is very limited The study of various records seems to give such different results that the complaint is general that too few cases are reported and those few not carefully enough

The clinical aspects of metastasis secondary to malignant disease are of considerable interest and importance When the existence of a primary tumor is obvious, or when such a tumor has been more or less recently removed, evidences of disease in other organs must necessarily excite alarm and arouse suspicions of a metastatic manifestation

Such a relatively straightforward sequence of events, however, very rarely exists The primary growth may have been overlooked or the nature of the tumor, removed by operation, may have been in doubt Again the interval between the primary growth and the secondary development may be so considerable that suspicion is at rest

The case reported here, fortunately, has been observed throughout the course of its malignant developments and the history is complete from the very beginning of the primary growth to the fatal termination due to multiple metastatic sarcomas of the lungs

S S Burt[1] in 1900 reviewed all cases of metastatic sarcomas of the lungs recorded in the *Johns Hopkins Reports, the Proceedings of the Pathological Society of Philadelphia* and the *Boston Medical and Surgical Journal*, and reports one himself In all there are twenty cases In only three are the metastases multiple and in two of these there is other involvement than just the seat of the primary tumor and the lungs His own case is very similar to the one reported here, in that the primary growth involved an extremity, which was amputated because of it, and that there followed multiple metastases in the lungs, without any recurrence of the growth at the site of amputation or elsewhere than in the lungs

F R Greenwood[2] in 1899 reports a case in which the same order of events prevails, with, however, this striking difference that in his case there was a general glandular involvement

A A Stevens[3] gives a brief but comprehensive review of data collected by different observers He discusses both primary and secondary malignancies of the lungs and reports three cases which came under his own observation, one a primary sarcoma of the right lung, one an endothelioma of the right pleura with metastases in the right lung, the third a hypernephroma of the left kidney with secondary sarcoma of the left lung

A case recently reported is one by T M Martin[4] in which the findings in the lungs were secondary to sarcoma of the uterus[5] The following case was observed in the Cincinnati General Hospital

History—V B, a widow, aged 54, was admitted to the West Medical Service, May 16, 1915 Her chief complaint was pain in the left lower chest, through and through the lung at the scapular level

Family History—Her father had died of pneumonia after a brief illness, her mother of old age She was one of a family of eleven children three of whom died in infancy, the others were living and well Her husband had been shot through the lung in the Spanish-American War He died in 1908 of pulmonary hemorrhage. There was absolutely no history of tuberculosis or malignancy

Past History—In early childhood the patient had had measles, chickenpox, whooping cough and mumps At the age of 22 she was ill with a slight attack of peritonitis, from which she fully recovered At the age of 44 she had an attack of pneumonia with pleurisy which ran an acute course and went on to prompt and complete recovery

In the summer of 1912 patient noticed a firm swelling which appeared over the upper part of the right tibia just below the knee. This lump gradually grew in size and in September, 1913 was opened to allow drainage No pus was found The incisions were allowed to heal and had almost closed when there was evidence of an active tissue proliferation with protrusion of the tumor substance at the site of the first openings The diagnosis of sarcoma was made and Dec 19, 1913 the leg was taken off above the knee by Dr W D Hamilton at Mount Carmel Hospital Columbus, Ohio Dr Coon pathologist to that hospital, reported the specimen to be oat-grain cell sarcoma

Onset—During the winter of 1914-1915 patient began to feel pain under the left shoulder blade and under the left arm She took one cold after another She coughed considerably in spells but expectorated very little and seldom During one severe coughing spell she brought up an old blood clot with some phlegm She lost weight steadily and rapidly There were no night sweats There were no gastric or bowel symptoms

---

[17] Sawyer W A Ninety-Three Persons Infected by a Typhoid Carrier at a Public Dinner THE JOURNAL A. M A Oct 31 1914 p 1537

[1] Burt S S Philadelphia Med Jour 1900 vi 545

[2] Greenwood F R Birmingham Med Rev 1899 xlvi 88

[3] Stevens A A Med and Surg Rep Episc Hosp 1913 i 333

[4] Martin T M Brit Med Jour 1913 ii 939

[5] In addition to the references already given the following will be found of interest

Prentiss D W Tr Assn Am Phys 1893 viii 191 Med News Phila 1893 lxiii 13

Treutlein A Centralbl f allg Path u path Anat 1902 xiii 570

Zinn Munchen med Wchnschr 1894 xli 197

Examination—Patient was a well developed but very poorly nourished white woman, aged 54 years, pulse 80, respiration 28, temperature 101 Her face was very emaciated and gaunt looking although her expression was cheerful and hopeful Her voice was clear

The right leg had been amputated in the middle third of the thigh This was the only deformity found With the exception of the chest findings, the examination revealed nothing abnormal There were no glandular enlargements There was no enlargement of the liver or spleen

The chest findings were interesting The respirations, as noted above, were somewhat rapid The expansion was fairly good but the excursions were more limited on the left side The supraclavicular and infraclavicular fossae were deep and well marked, especially on the left side There was dulness over both apices and dull areas scattered over both lungs There was a large area of dulness in the left axilla extending anteriorly The breath sounds were roughened and the breathing bronchovesicular over the dull areas with medium moist and dry rales during and at the end of expiration

The heart showed nothing other than an accentuation of the second aortic sound and an almost imperceptible arrhythmia at times

The examination of the urine was negative for pathologic findings

The blood findings were as follows hemoglobin, 95 per cent, erythrocytes, 4 460,000, leukocytes 10,250, polymorphonuclears 70 per cent, large lymphocytes 3 per cent, small lymphocytes, 25 per cent, systolic blood pressure 122 mm, diastolic, 76 mm, Wassermann reaction, negative, Abderhalden malignancy test positive

No tubercle bacilli were found in the sputum

The clinical diagnosis was made of metastatic sarcomas of the lungs, and this was confirmed by the Roentgen-ray findings

Roentgenoscopic Findings—Dr Sidney Lange, official roentgenologist to the Cincinnati General Hospital, reported on the Roentgen-ray examination as follows Roentgenogram shows multiple rounded opaque areas scattered throughout both sides of chest These areas vary in size from that of a 5-cent piece to that of a silver dollar They look typically like malignant metastatic deposits, in all probability sarcoma

Treatment—The treatment was entirely palliative, narcotics and sedatives The patient was cheerful throughout, but failed steadily The course of the illness was uneventful the patient at times running a slight elevation of temperature, but at no time more than 101 5 Toward the end she refused nourishment and finally fell into a deep stupor She died June 20, 1915, without regaining consciousness

Necropsy—Dr P G Woolley, pathologist to the Cincinnati General Hospital, reports on the necropsy as follows The body was that of a slight, emaciated, decidedly anemic woman, 5 feet high The right leg had been amputated a few inches above the knee for some considerable time, for the scars were atrophic and well formed There was no enlargement of the remaining part of the femur, and dissection showed no abnormality of the bone or periosteum The eyes were normal There were no evidences of trauma or injuries of any sort on the body The peripheral lymph glands were not palpably enlarged Postmortem lividity and rigidity were present There was a slight bulging of the thorax to the right of the median line The mammary glands were atrophic

When the chest was opened the lungs did not collapse The diaphragm reached to the fifth rib on the left and to the fifth interspace on the right In the left pleural cavity there were recent fibrinous adhesions laterally and anteriorly above the level of the nipples, in the right there were similar adhesions over the posterior part of the upper lobes All these adhesions were over nodular masses situated in the lungs beneath the pleura Beneath the sternum in the right lung were several of these nodules between which and the sternum were well-formed fibrous adhesions

Both lungs were filled with large and small nodular growths, which varied in size, from a small pea (in one case) to a small orange (8 cm) In the left lung most of the nodules were softened and, when traction was put on the lung, they ruptured and the contents came forth looking somewhat like moist cottage cheese In one instance, a nodule was situated in an infarct caused (apparently) by pressure of another mass on the vessels of the part The smaller, better nourished growths were clear, pearly white in color, were rounded or oval, and had something of the appearance of soft fibromas, that is, they were indistinctly striated or lamellated and juicy Older ones, which had not undergone distinct softening, were often darker in color, sometimes with lines of greenish or olive across the grayish surface of the growths The pleura above all the subpleural nodules was inflamed

The other organs showed no noteworthy changes All were atrophic and pale and apparently fibroid This was especially true of the kidneys, spleen and heart In the aorta, at the arch, was a patch of senile sclerosis with calcification There were a few plaques elsewhere in the aorta

The uterus was fibroid, in the wall were several small fibroids The endometrium was hyperplastic, especially in the fundus, where there were two polypi, a few millimeters long and pedunculated The right ovary was cystic

The mesenteric lymph glands were not enlarged The intestines showed no abnormality except that the transverse colon passed across the cavity 2 inches below the navel

Microscopic examination of the tumor masses showed them to be spindle cell fibrosarcomas, of the short spindle cell variety, with a marked tendency to perivascular arrangement

The interest in this patient centers in the completeness of the study of the case, which we were able to follow from the very beginning of the illness to the final microscopic examination

---

CREEPING ERUPTION (LARVA MIGRANS) OF THE SKIN

PARTICULARLY IN REGARD TO ITS HISTOLOGIC FEATURES, INCLUDING THE DEMONSTRATION OF THE BURROW AND THE LARVA IN THE EPIDERMIS *

FRANK CROZER KNOWLES, M D
Instructor in Dermatology, University of Pennsylvania School of Medicine, Clinical Professor of Dermatology, Woman's Medical College of Pennsylvania
PHILADELPHIA

The various dipterous invasions which lead to a destructive or purulent inflammation, resembling furuncles, abscesses and doughy tumors, such as are caused by the African cayor worm, the larva of *Ochromyia anthropophaga* (Blanchard), the various muscidae, the *Hypoderma bovis,* ver-macque, etc, are so diverse in their clinical aspect from the present case that they will not be considered in this communication

Creeping eruption which is a special variety of animal parasitic infection is of rare occurrence The causative larva has been discovered by but five investigators, namely, Sokolow,[1] Samson,[2] Wosstrikow and Bogrow,[3] and Rudell,[4] the first four being Russians and the fifth an American The histologic examination has been successfully carried out in but three cases, including the present instance Complete microscopic findings, including the demonstration of the burrows, have been presented by Lenglet and Delaunay,[5] Rille and Riecke,[6] and myself The efforts of Dickinson, T Fox and Duckworth, who examined the tissue from Lee's first case, were negative[7] Hamburger[8] was able to demonstrate, in his example of the affection, only the phenomenon of an acute inflammation of the skin I, alone, have been able to discover the larva in sections

---

* From the Ayer Laboratory of the Pennsylvania Hospital Read before the College of Physicians of Philadelphia Nov 3 1915

1 Sokolow Arch f Dermat u Syph, 1897, xxxviii, 153

2 Samson Arch f Dermat u Syph 1897, xli 367

3 Wosstrikow and Bogrow Arch f Dermat u Syph, 1908, xc 3?3

4 Rudell G L Creeping Eruption, THE JOURNAL A M A, July 26 1913, p 247

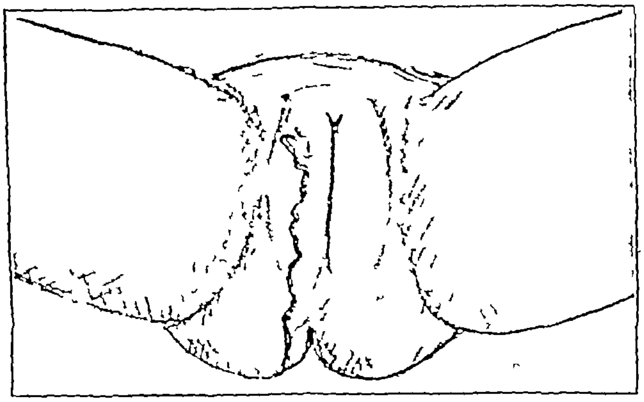


Fig 1—Creeping eruption involving the right labium majus

The first case of this disease was reported by Robert Lee in 1874, under the caption "creeping eruption", Crocker[9] recorded an instance in 1892, terming the disease "larva migrans", Sokolow mentioned cases in Russia in 1888, Neumann[10] reported an instance in 1895, Kaposi[11] recorded the first case in Austria in 1898 The first American cases were reported by Van Harlingen[12] in 1902, Stelwagon[13] in 1903, and Hamburger in 1904 Other American cases have been recorded by Shelmire,[14] Hutchins,[15] Moorhead,[16] Gosman,[17] Haase[18] and Kirby-Smith[19] The disease has also been reported from Bulgaria, France, the Kongo and Arabia The disease is rather prevalent in Russia, particularly the eastern portion Samson saw nine cases in three years, Sokolow has seen from two to three yearly, Wosstrikow and Bogrow have encountered from two to three cases each year during the last two decades

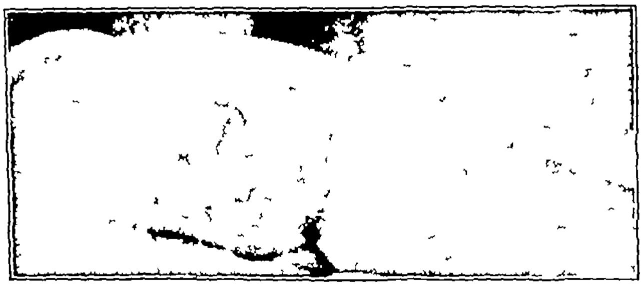


Fig 2—Creeping eruption involving the right buttock Note the gyrating character of the track The two dark spots are areas in which nitric acid was unsuccessfully employed

The disease is particularly prone to attack children, although in Russia young peasants working in the fields furnish most of the cases According to Hamburger, of eleven cases in other countries than Russia up to 1904, eight occurred in children

The seat of predilection for the attack is the uncovered portions of the body, particularly the hands, the feet and the face, although quite a number of instances have been recorded on the buttocks or near the genitalia, five out of eleven cases developed in the latter region (Hamburger) According to Rille and Riecke, the axillae and pubic regions may be attacked No burrows have ever been reported as occurring on the scalp or bearded regions Samson has recorded cases in which the mucous membranes of the mouth, the nose and the conjunctiva have been attacked

Creeping eruption may be initiated with an itching sensation, but more often the case comes to observation a considerable period after the burrowing has been inaugurated Frequently a red creeping line reveals itself without subjective symptoms More often, however, a red spot the size of a finger nail appears, from which the line takes its beginning Lee demonstrated a small slightly reddened papule, pinhead in size According to Van Harlingen it starts as a vesicle

The beginning line is light red, while the older portions of the channel are of a dark red shade The line is from 1 to 4 mm in width and elevated approximately 0 5 mm Both Hamburger and Van Harlingen found vesicles capping the line which suggested somewhat the burrow of scabies Lee and also Stelwagon found a beadlike appearance, suggesting in the former's case the appearance of a lymph channel Bruno[20] discovered little irregularities along the track of the line which he considered as points of defecation, thus heightening the resemblance to the lesions of scabies In most of the cases the burrows are unbroken

The characteristic symptom is the progressive character of the burrow Sokolow believes that the beginning burrowings are always in a straight line, and toward their end they become wavy In the majority of cases only one red line is discernible In the cases of Crocker, Rille, Stelwagon, Haase and Rudell two lines were present, while in those of Kaposi, Schmidt[21]

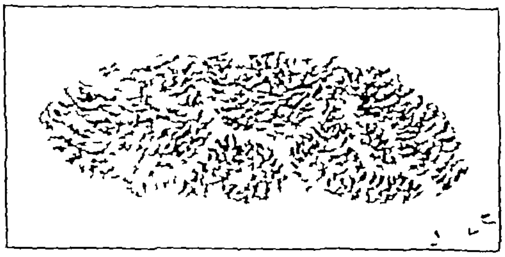


Fig 3—Drawing of excised skin showing the appearance of the burrows through a magnifying glass.

---

[5] Lenglet and Delaunay Ann de dermat et de syph 1904 ix 107
[6] Rille and Riecke Handbuch der Hautkrankheiten Mracek 1909 ix Part 2 p 178
[7] Lee Tr London Clin Soc 1874 viii 44 ibid 1884 xvii 74
[8] Hamburger Jour Cutan Dis 1904 p 217
[9] Crocker Diseases of the Skin Ed 2 p 926
[10] Neumann Verhandl d V Cong d Deutsch dermat Gesellsch 1895 (1896), p 95
[11] Kaposi Wien klin Wchnschr 1898 p 399
[12] Van Harlingen Am. Jour Med Sc September 1902
[13] Stelwagon Jour Cutan Dis. 1903 p 502 ibid 1904 pp 369 381
[14] Shelmire Jour Cutan Dis June 1905
[15] Hutchins Jour Cutan Dis. 1906 p 270 ibid 1908 p 521
[16] Moorhead Texas Med News February 1906
[17] Gosman G H R. Two Cases of Creeping Eruption The Journal A M A Jan 1 1910 p 38
[18] Haase Jour Cutan Dis 1910 p 393
[19] Kirby Smith New York Med Jour March 13 1915
[20] Bruno quoted by Samson (Footnote 2)
[21] Quoted by Hamburger (Footnote 8) and also by Rille and Riecke (Footnote 6)

and myself three lines were demonstrated The development of the line takes place with a rapidity which varies, now curving and looping, now adopting a straight course and traversing in twenty-four hours from 1 to 17 cm , the greatest progression having been observed in Crocker's and Lee's cases, 7 and 4½ inches, respectively

The line does not branch It may remain passive for hours and even days, and then may resume its gyrations The progression of the line may be observed only during the night, as in Haase's case, or greater progress may be made during this period, as noted by Rudell As the red line proceeds the older portions fade, leaving a pigmented tract behind As a rule the burrows are superficial and the erythema is generally removable under pressure Notable exceptions were, however, observed by Sokolow, who recorded a case in a brunette which showed a distinct scarring Schmidt also recorded a resulting cicatrix

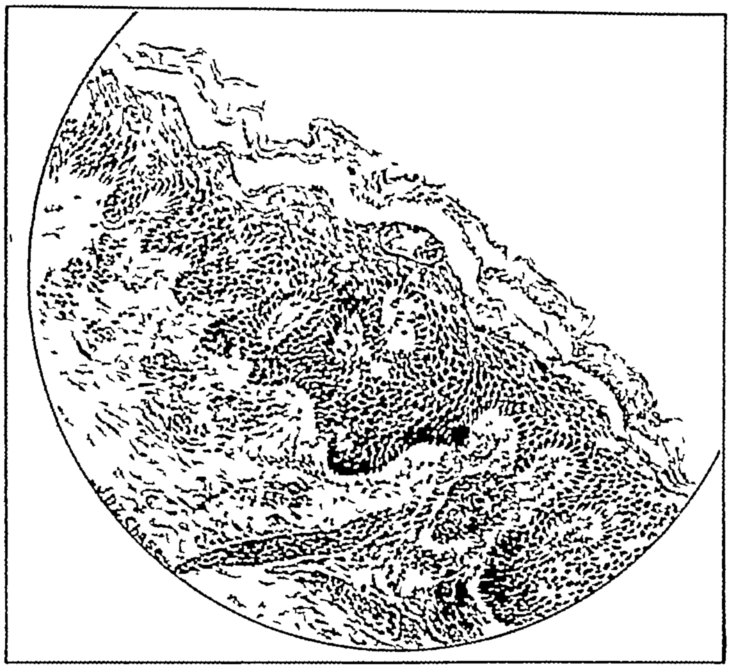


Fig 4 —Drawing made from the microscope, showing a newly made burrow The oval body with the clublike projection, in the central and lower portion of the burrow, may be noted, also the elongation and broadening of the rete pegs and a round cell infiltration in the papillae and the upper corium, chiefly in the neighborhood of the blood vessels

In regard to the length of progression of the larva, in Crocker's case the burrowing was followed over a period of two and one-quarter years, after covering a large portion of the cutaneous surface, it ceased its activity only by its destruction because of an accidental suppuration in the neighborhood The reverse was observed in Matchinsky's case,[21] in which the activity of the larva was limited in its gyrations to the cheek, for a period of two months

According to the Russian authorities, the larva resides from 0 5 to 1 cm from the end of the burrow Samson states that by putting pressure on the skin and by employing a magnifying glass the larva can be seen in some cases as a black point, in the unaffected skin, slightly in advance of the actively extending end of the channel This black point was observed immediately in advance of one of the burrows in the present case

Two instances of this affection have been under my care, both occurring in children, the second of which forms the basis of this communication

G D , a well-formed girl, aged 20 months, visited my office, Sept 6, 1912, with a typical case of creeping eruption, which had started August 22 The serpiginous, gyrating lines (there were three distinct burrows) involved palm-sized areas on both buttocks and the upper portion of the mons veneris The vaginal mucous membrane was unattacked An attempt was made to destroy the larvae with nitric acid, and as both applications proved a failure, Dr Edward B Hodge excised all three tracts Four days after excision, insufficient tissue having been removed in front of the advancing end of one of the burrows, the larva made a fresh progression at the edge of the excision on the left buttock and burrowed down toward the lower edge of the left mons veneris, traveling a distance of 2 inches in twenty-four hours Since the last operation there has been no recurrence

I have had an unusual opportunity for the study of the histopathologic features of creeping eruption, as all of the passages were excised in their entirety All of the tissue was cut serially, and 3,000 sections have been examined during many hours of the last three years Quite a number of stains have been employed in order to bring out to the greatest advantage the various salient features The investigation has been crowned with success, in that fully 150 sections show excellent views of the burrows, and thirty present various portions of the larvae The excellent treatises of Rille and Riecke, and of Langlet and Delaunay pertaining to this disease, particularly that of the former, have been consulted freely and frequently, and their findings coincide almost absolutely with mine, excepting that in addition, I have been successful in finding the larvae in sections Their deductions form a partial basis for my results

All varieties of passageways were found, longitudinal, transverse, and because of the winding character of the burrows and the various planes in which they were cut, those of a very irregular shape Some of the channels were clear of contents, resembling markedly those found in scabies (Hartzell), others were partially filled, while the majority were entirely blocked up The burrows were, however, quite different from those made by the *Acarus scabiei* in that they were much larger and were located in the lower portion of the horny layer at the junction with the rete and also in the upper portion of the rete Malpighii,

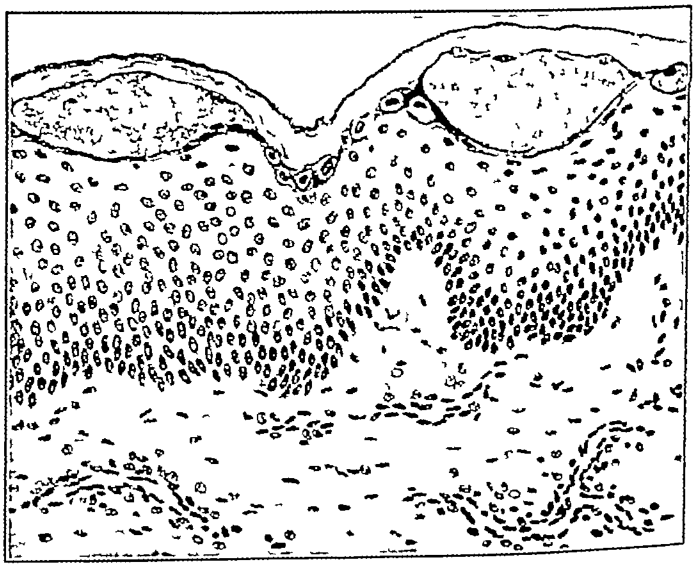


Fig 5 —Photograph of histologic drawing from the case of Rille and Riecke, showing a transverse section of three burrows, two large and one small, at the junction of the horny and rete layers (Mracek's Handbuch der Hautkrankheiten)

rather than as in scabies in the middle and upper portion of the stratum corneum

As a general rule the upper boundary of the passageway consisted of a few flattened, dark granular cells together with the horny layer The floor was composed of rows of rete cells, in no place was the burrow in contact with the corium The microscopic picture shows the passages in almost all sections to be located in the upper portion of the rete The undermining work of the parasite was also found, in a few sections, in the lower portion of the horny layer exclusively The diameter of the burrow varied from 0 25 to 0 75 mm

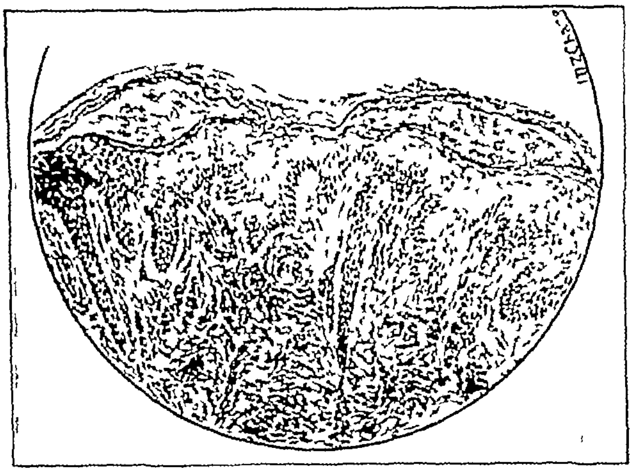


Fig 6—Histologic drawing of the author's case showing a transverse section of two burrows at the junction of the horny and rete layers Older burrows than the other depicted (Fig 4) the cavity completely filled There is widening of some of the rete pegs, elongation and narrowing or others There is round cell infiltration in upper corium Compare with Figure 5

The stratum corneum is not changed from the normal in breadth and thickness, excepting that it is bulged over the passageways It was intact in all sections The covering of the passage consisted of elongated granular cells without a sharp contour but very distinct nuclei These nuclei were flattened and some almost linear The lateral and outer boundaries were chiefly composed of separate cells of the stratum germinativum, epithelial cells with distinct nuclei which are also mostly flattened Both the upper and lower bounds of some of the passages consist of cells of the granular layer Three or four rows below the burrows the cells have a normal configuration The remaining cells of the stratum germinativum and the basal layer are somewhat edematous, and the nuclei are found in a large degree to be undergoing mitosis

The character of the contents of the passageways varies considerably, the new channels may be entirely free and open, but as they become older they are observed to be more and more completely blocked There is observed in comparatively newly bored channels a refracting uniform substance which is broken up with numerous small round granules Later these granules are observed to be of unequal size and shape, round, irregularly long or oval They are found in large numbers without a vestige of regular arrangement or grouping Rille and Riecke suggest that they are of cell derivation, probably a degeneration of the granules of the cell nuclei It has occurred to me as a possibility that some at least are the fecal discharge from the larva, as is found in sections of scabies The passageways also contain swollen, degenerated, indistinctly outlined epithelial cells, numerous nuclei without a cellular surrounding, which vary considerably in their staining characteristics, some distinct while others are only faintly colored, eosinophils, and less numerously lymphocytes and polymorphonuclear leukocytes The Mallory connective tissue stain brings out vividly a considerable amount of fibrin contents in the burrows There is also a large amount of granular and cellular debris

In the neighborhood of the burrows the rete pegs are either contracted and elongated or broadened, and there is therefore a corresponding contraction and narrowing of the papillae These changes are, however, found in only a portion of the sections There is a considerable diversity of pathologic findings in the various fields, in some the corium is absolutely normal, while in others there is an inflammatory accumulation of cells in the papillary layer In some sections, there is an aggregation of cells in the immediate neighborhood of the capillaries of the papillae These cellular infiltrations have also been observed surrounding the other blood vessels of the cutis, peripherally around the hair follicles and also the sebaceous glands A few round cells were noted, in some sections, around the coils of the sweat glands In a few instances the broadened pegs of the rete were invaded by a dense cellular infiltration which also extended considerably down in the corium The greatest round cell accumulations are found in the neighborhood of the papillary bodies, and then only in a few sections, and only to a much lesser degree in other portions of the corium The blood vessels are dilated, with a surrounding cellular infiltration, some filled with blood corpuscles and others empty The elastic fibers and collagen are normal

As the parasite which burrows in creeping eruption has never been discovered in sections, I have had to base my study on the characteristics of the larva picked from the burrow and examined microscopically, and for a working basis have had to study the *Acarus scabici*, although quite different from the present larva, as it appears in skin tissue

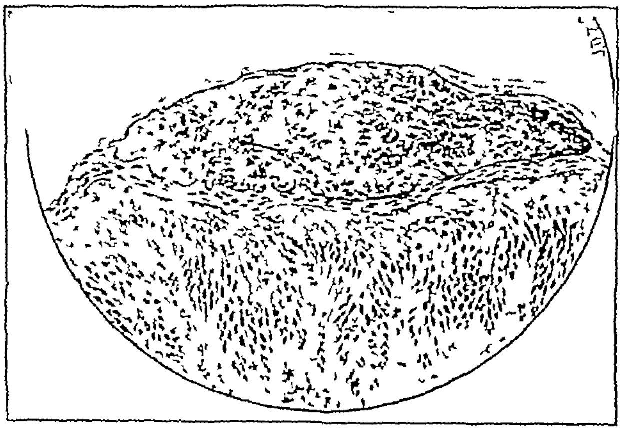


Fig 7—Drawing under high power, showing a transverse section of a burrow filled with irregularly shaped granules swollen degenerated, indistinctly outlined epithelial cells numerous free nuclei eosinophils lymphocytes polymorphonuclear cells fibrin and cellular and granular débris Elongation of the rete pegs and a round cell infiltration in the corium are also seen

In about thirty sections, cut serially from the different passages, there was found in the upper portion of the rete, with a few flattened epithelial cells above and the normal rete cells below, an oval body of a definite structure consisting of a granular looking material and several dark points around the circumference and an attached clublike projection closely conforming to the tail of the larva This oval body with a distinct capsule was found in eight serial sections, and is thought to be either an egg of the larva or a portion of the parasite itself In another series of sections, from another track, there were twelve serially cut, which showed three of these oval bodies, closely in contact, with the same characteristics of the one just described and in the same position in the rete In still a third series of sections, from the remaining burrow, ten showed six complete segments of varying size, oval and somewhat irregular in shape, of the same texture of those just described, with two distinct clublike processes, the latter evidently the tail attachments of the larva The latter was found in the upper portion of the rete in the same relative position as those that have just been mentioned

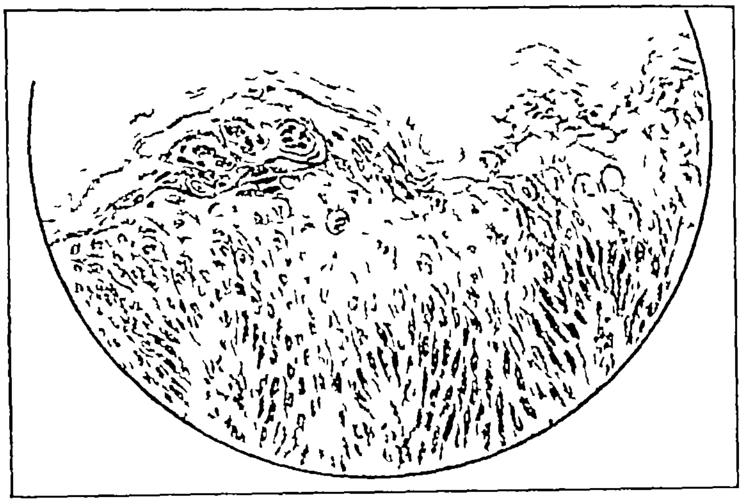


Fig 8—Drawing showing the three oval bodies, close together in the rete, probably sections of the larva cut transversely, referred to in the text Mitotic figures in the nuclei of the rete cells are distinctly shown

The *Acarus scabiei* has been carefully studied in section (Unna), and the organized body formation closely conforms to the first body depicted, although it has not the clublike projection The latter series of oval and irregularly shaped bodies with the typical clublike processes conform so closely to the description of the larva migrans (Sokolow) that I have no hesitancy in stating that all of these oval-like bodies are sections of this parasite, some, because of the gyrating channel and the various planes of the sections, showing a transverse, others a transverse and partially longitudinal, and still others an almost complete longitudinal view of the organism Some of these oval-shaped and irregular bodies lay directly in the burrow, others were in immediate contact with it, while others were in the same location in the epidermis as the burrow was found

The organism causing this affection was originally discovered by Sokolow, and this author states that it measures from 1 to 1 5 mm in length and 0 5 mm in width, it has ten segments, and is provided with hooklets, better developed at the head end, which apparently possesses two suckers At the tail end are two clublike processes In the interior are two tubes

The zoologic classification of the parasite causing creeping eruption is still not definitely settled, although the majority of dermatologists and entomologists, particularly Cholodkowsky[22] and Porchinsky,[23] regard either the *Gastrophilus hemorrhoidalis* or the *Gastrophilus pecorum* as causative, notwithstanding the suggestion of Brauer and Handlirsch[23] that it is of the genera Tetrangchus and the species Telarius As Sokolow found black nits on the hairs, it points strongly toward the *Gastrophilus hemorrhoidalis*

Samson and also Hamburger give an explanation of the manner in which, probably, the patient is infected by the larva of the gastrophilus The *Gastrophilus hemorrhoidalis,* a species of oestrus, deposits its eggs on the lips and the nose of the horse, and the larvae attach themselves to the bowel as well as the anus The bot-fly lays its eggs in the latter part of the summer, and the larvae are probably transmittted to the stomach of the horse, where they attach themselves in varying numbers to the mucous membranes and there they remain during the winter season The next summer they loosen their hold, pass through the intestine, and burrowing into the ground, they further undergo metamorphosis into the pupa, from which the imago or adult bot-fly emerges in a few weeks

A considerable number of the cases of this affection appear during the summer months, thus carrying out the theory that they are derived from the ground after passing through the intestine of the horse Crocker and also Lenglet and Delaunay thought the snails resident in the vineyard were the hosts of the parasites Stelwagon states that five patients of his, attacked by the affection, had been residents of a watering resort As the majority of all of the cases have been reported in Russia, in those laboring in the fields, this again tends to support the theory of origin as promulgated by Samson

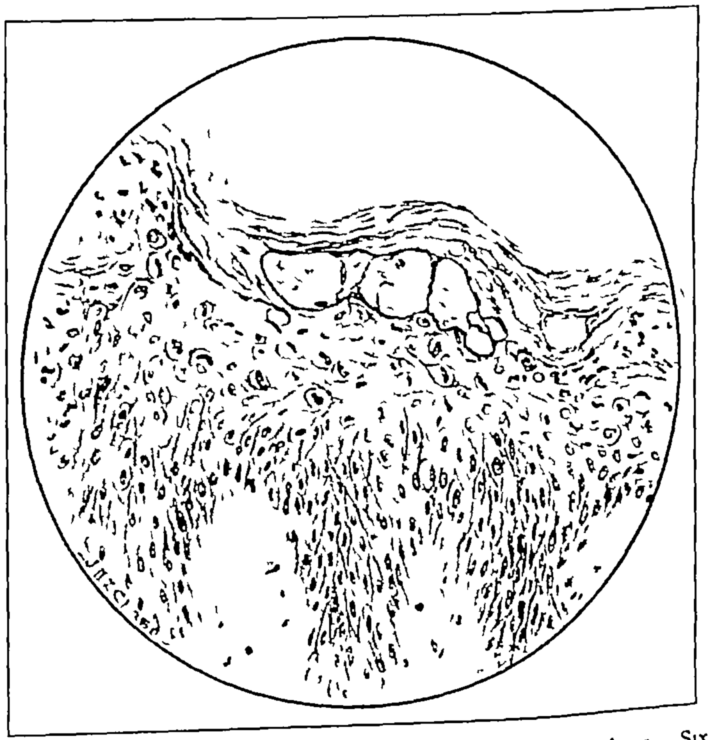


Fig 9—Drawing showing a longitudinal section of the larva Six sections of the body and the two clublike projections, which are characteristic of the tail of the organism are distinctly shown, located in the upper portion of the rete layer of the epidermis The rete pegs are elongated, and numerous mitotic figures are observed in the nuclei of this layer

The incubation of the disease is unknown Crocker believed it to be from four to six weeks Samson thought the shortest period of incubation to be six days In the instance reported by Brodier and Fouquet[23] it seemed to be less than twenty-four hours, while Lenglet and Delaunay set a period of three days

---

[22] Cholodkowsky, quoted by Sokolow (Footnote 1)

[23] Quoted by Rille and Riecke (Footnote 6)

There is still a considerable amount to be learned in regard to this interesting affection Creeping eruption is gradually, however, being elucidated, first, with the finding and probably correct classification of the organism (Sokolow), second, with the determination of the location of the burrow in the skin and the other pathologic findings, and third, by the present investigation, which shows the larva in epidermic tissue

2022 Spruce Street

TRANSPLANTATION OF BONE FOR NONREGENERATION OF THE TIBIAL SHAFT

MELVIN S HENDERSON, M D

ROCHESTER, MINN

A girl, aged 6 years, was brought to the Mayo Clinic for consultation and treatment Nov 20 1912 Seventeen months before she had had a typical attack of acute osteomyelitis of the left tibia On the seventh day an abscess was opened and during the next fortnight several more collections of pus were incised and evacuated. Two months after the onset a subperiosteal resection of the entire shaft of the left tibia was performed by the attending surgeon At the time of our examination there was nonregeneration to the extent shown in Figure 1 The child was wearing a brace which enabled her to walk without crutches The fibula was quite enlarged as a result of the increased function demanded of it Since the sinuses had been healed only two months, we advised deferring operative interference for three months to make sure that the infection had become quiescent and to see if by any chance more regeneration would occur thus eliminating surgery At the end of this time the leg still looked clean but no further regeneration had occurred

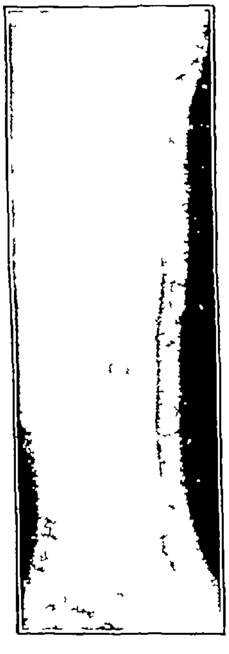


Fig 1 — Incomplete regeneration of the shaft of the tibia following subperiosteal removal twenty one months before.

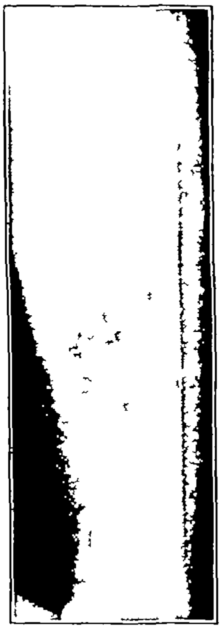


Fig 2 — The graft three months after operation firmly united above and below

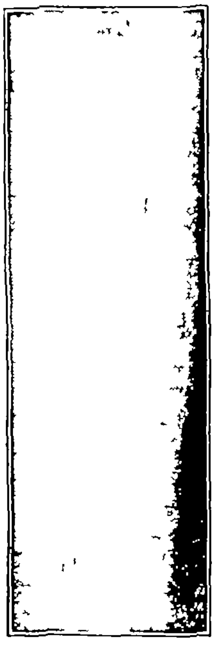


Fig 3 — A month later than Figure 2 four weeks after the fracture of the transplant.

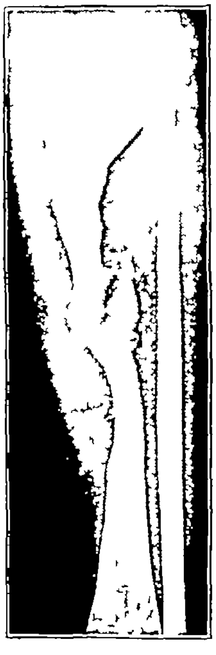


Fig 4 — One year after the fracture of the transplant Note the callous formation

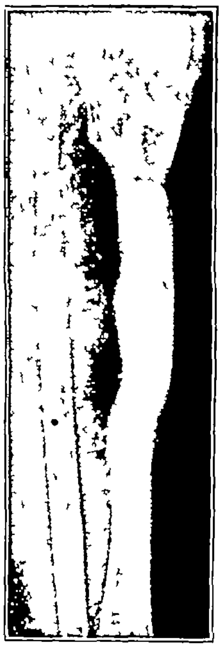


Fig 5 — Restoration eight months after the second operation Note the beginning formation of the intramedullary canal.

Feb 14 1913, a piece of bone 4½ inches long and three-eighths inch wide was removed from the opposite tibia and placed in a warm salt cloth while the bed was prepared for it in the affected leg The periosteum was retained on the transplant, which was wedged into the upper fragment, and side-to-side apposition to the lower fragment was secured Holes were bored in the transplant and silver wire used to hold it in place, a suture now rarely used in our bone surgery Figure 2 shows the graft three months later firmly united above and below with only slight increase in the size of the transplant During this convalescent period the child wore a cast and was provided with crutches

Two weeks after the roentgenogram (Fig 2) was taken the child stepped rather heavily on the left foot while playing and felt and heard something snap No particular pain was complained of, but a month later (June, 1913), her parents brought her to the clinic for examination Figure 3 shows a fracture where the silver wire was thrown around the graft and the lower fragment. The nonabsorbable silver wire had caused an osteoporosis here which finally resulted in fracture at the instigation of an unusual strain Casts and crutches were used for a year in the hope that the fractured graft would unite In July, 1914, fibrous union only had occurred, but there was marked increase in the size and density of the transplant Figure 4 shows the somewhat wild attempt of Nature to bring about union

It was decided again to remove a piece of bone from the sound tibia as a graft to bridge the fracture in the original transplant and July 23 1914, a piece of bone 2½ inches long by three-eighths inch wide was transplanted The silver wire that was easily accessible was removed A cast was worn until March 1915 though weight-bearing was permitted in three months Figure 5 shows the condition, April 26 1915 Note the beginning formation of a medullary cavity in the transplanted area The child now has complete restoration of function

The case is thought worthy of report for the following reasons

1 It emphasizes the fact that nonregeneration frequently occurs after a subperiosteal resection, as advised by Nichols[1]

---

[1] Nichols Edward H Acute Subacute and Chronic Infectious Osteomyelitis Its Pathology and Treatment The Journal A M A Feb 13 1904 p 439

2 The operation as recommended by Phemister[2] was probably not done on this child at the right time (two months after onset) A little later enough osteoblasts and new bone might have been attached to the periosteum to insure the regeneration of the entire shaft

Empirically, no definite time can be set for removal of the shaft The Nichols operation probably is not used as often as it should be because of this indefiniteness as to the time the shaft should be removed It would be better to remove the entire shaft, especially in children, and quickly eradicate the disease if we could be at all sure that regeneration from the periosteum would follow While in this case the patient has been submitted to three operations, she now has a practically normal tibia and not the hard eburnated tibia so prone to reinfection that occurs in the old chronic cases of osteomyelitis

It may be better to accept the chance of nonregeneration in these cases of acute osteomyelitis of the tibia involving the large part of the shaft, since bone transplantation or the use of the fibula, as advised by Huntington,[3] offers such ready means of controlling the deformity and disability But these methods cannot so readily be advised, for example, in the humerus and the femur, for here there is no second bone as the fibula to assist in maintaining alinement and growth However, this is not an insurmountable difficulty

3 Figure 5 shows how the transplanted bone has taken on the function of normal bone and its attempt, and failure, at union

---

HAS SECRETIN A THERAPEUTIC VALUE?*

A J CARLSON, PH D, J E LEBENSOHN, M S,
AND
S J PEARLMAN, B S
CHICAGO

It is well established that acid chyme in the duodenum is the normal stimulus to the secretion of pancreatic juice[1] Interaction of the acid with the duodenal mucosa liberates into the blood stream a substance which, circulating through the pancreas, excites the latter to activity This exciting substance has been termed "secretin" It can be prepared artificially by macerating duodenojejunal mucosa in 0 4 per cent hydrochloric acid, neutralizing the boiling mixture, and filtering A few cubic centimeters of the filtrate injected into a vein produce invariably a powerful secretion of pancreatic juice[2] That a "chemical messenger" is at the basis of the duodenal acid reflex has been proved by even more crucial experiments—transfusion (Wertheimer,[3] Enriquez and Hallion[4]), cross circulation (Fleig,[5] Matuso[6]), and perfusion of the isolated pancreas (Huston[7])

PROPERTIES OF SECRETIN

Prosecretin—Secretin is soluble in water, yet a watery extract of intestinal scrapings is without action,[2] even after being submitted to acid treatment[8] Starling therefore holds that secretin exists in the intestinal mucosa in an inactive form, as "prosecretin" The content of the intestine in prosecretin decreases from the duodenum down, so that one is unable to demonstrate any prosecretin in the last 2½ feet of the ileum Prosecretin is insoluble in water, acetone, absolute alcohol or ether Secretin, on the other hand, is readily soluble in water, normal salt solution and diluted alcohol (70 per cent), but likewise insoluble in absolute alcohol and ether

Preparation—All of the more dissociated acids liberate secretin from intestinal mucosa on boiling Their action is dependent on the degree of dissociation,[9] carbonic and boric acids being inactive[10] Secretin can also be prepared with strong soaps (from 10 to 30 per cent sodium oleate), alcohol (70 per cent,[11] 0 6 per cent sodium chlorid[6]) The acid and soap in the duodenum produce secretion, there is no necessary correspondence between the action of a substance in the intestine and that obtained by injection after boiling mucosa with it The sodium chlorid, bile, maltose and glucose produce some secretion by the latter method yet none by the former[6] On the other hand, ether, chloral and oil of mustard excite secretion when in the intestine, but no secretin can be prepared from boiled mucosa by their action The irritation of the lining cell has produced the necessary hydrolysis[8] In well-controlled experiments, Wertheimer and LePage[12] found that after the introduction of acid, secretin is secreted into the lumen of the intestine Matuso[6] confirmed their results, and found this a satisfactory method for the preparation of secretin It is said that secretin can be obtained by merely boiling the mucosa with water, but the results are inconstant[13]

Action—Secretin is an excitant not only of the pancreatic juice but also of the liver and the intestinal mucosa The flow of bile is markedly accelerated (Henri and Portier,[14] Enriquez and Hallion[15]), likewise that of succus entericus (Delezenne and Frouin,[16] Bottazzi and Gabrielle[17]), and intestinal peristalsis is stimulated (Enriquez and Hallion,[18] Falloise[19]) Injections of secretin produce a marked vasodilatation, but the secretory effect is independent of the blood pressure changes The pancreas is not readily fatigued by secretin Bayliss and Starling[2] have obtained undiminished flow after eight hours of continuous injection Our experience confirms this result Also, equal doses of secretin give corresponding results at various intervals Moreover, anesthesia does not affect the flow Secretin is unrecoverable from the glands even after two hours of continuous injections[22] The juice obtained by secretin has been subjected to many studies[23] It is of high alkalinity (about seventh normal), contains all the pancreatic ferments, and corresponds in all respects to the juice obtained in digestion from permanent pancreatic fistulas[24]

Specificity—In a maceration of the duodenojejunal mucosa, such as we have in secretin, the known substances are proteoses and peptones, acid amins, bile salts, beta-imidazolethylamin, cholin, gelatin and inorganic salts These substances, individually and severally, together with their derivatives, are devoid of secretory action Chemically, secretin is then a specific entity But like epinephrin, in its distribution, it is nonspecific Active preparations have been made from an extraordinary variety of animals among the different classes of vertebrates (Camus,[25] Bayliss and Starling,[26] Chapman[27]) It is likewise found in the new-born and in the fetus [28] Its action, however, like its chemical composition, is markedly specific It stimulates the flow of pancreatic juice, bile and succus entericus Its effect on the gastric glands is negative, and on the saliva likewise [29] On the other hand, no other extracts produce pancreatic secretion Dr Koch, who, in collaboration with Dr Keeton and Dr Luckhardt, has done the most recent work on gastrin[30] (a substance that most nearly resembles secretin) and has isolated an extremely active preparation, finds that gastrin injection has likewise no effect on the pancreas Camus and Gley,[31] with crude preparations, had previously obtained a similar result

---

[2] Phemister, D B Subperiosteal Resection in Osteomyelitis an Experimental and Clinical Study, read in the Section on Orthopedic Surgery at the San Francisco Session of the American Medical Association, June, 1915

[3] Huntington, T W Case of Bone Transference, Use of Segment of Fibula to Supply a Defect in the Tibia, Ann Surg, 1905 xli, 249

* From the Hull Physiological Laboratory of the University of Chicago

* Owing to lack of space, this article is abbreviated in THE JOURNAL by omission of the bibliographic references The complete article appears in the authors' reprints, a copy of which may be obtained by sending a stamped addressed envelope

* This investigation was undertaken at the request of the Council on Pharmacy and Chemistry The following report, having been submitted to the Council, received its endorsement (see report of the Council on Pharmacy and Chemistry, "So Called Secretin Preparations," Propaganda Department, this issue)

Lability—Neutral secretin is but feebly attacked by a temperature of 100 C If heated in an autoclave (so as to prevent oxidation), this temperature can be continued for thirty minutes without any change in its activity Increasing the temperature increases the speed of destruction so that at 140 C the destructive action is marked [32] Autoclaving at 15 pounds for fifteen minutes, as in ordinary sterilization of culture mediums, produces, we found, a distinct though not serious decrease in activity Secretin acidified to fifth-normal with hydrochloric acid loses 60 per cent of its activity on fifteen minutes boiling Secretin, alkalinized to fifth-normal with sodium hydroxid loses 95 per cent of its activity in five minutes' boiling, decreases to a trace in thirty minutes, and disappears entirely in sixty minutes At room temperature, with fifth-normal alkalinity, 80 per cent of secretin is destroyed in eight hours [32] The destruction probably means a secondary cleavage of the secretin molecule itself

Secretin is oxidized readily If left standing uncovered for a summer's day, the preparation will be inactive [22] Even if kept in the ice-chest (no other precaution being taken), its activity is lost in a very few days Sunlight undoubtedly hastens the oxidative process If care is taken as to sterility, and the secretin is kept in the ice-chest, well stoppered and in a dark flask, it will retain its activity for several weeks

Dixon and Hamill[11] claimed that secretin disappears quantitatively on passage through a Berkefeld filter at 5 mm pressure Lalou,[21] using higher pressure, was unable to confirm the finding, but obtained a marked decrease in activity Our results are in accord with those of Lalou

Analogy to Epinephrin—The analogy of secretin to epinephrin does not generally receive enough emphasis Both substances are nonspecific in distribution, but specific chemically, and especially physiologically, epinephrin acting on the myoneural junctions, secretin on intestinal digestion They are both relatively simple substances of low molecular weight, and subject to rapid oxidation whereby their properties disappear The action in both cases is very transient They are the two examples of what Starling calls the "acute hormones," in which it is essential that reaction take place immediately, and shall disappear as soon as the exciting cause is removed " [33]

CLINICAL USE OF SECRETIN

Diabetes Mellitus—Moore, Edie and Abram[34] were the first to suggest a therapeutic value for secretin, having obtained favorable results with secretin administration in diabetes They argued that the internal secretion of the pancreas *may* be stimulated by secretin, and that some cases of diabetes *may* be due to lack of this necessary excitant Owing to the importance of the question, their announcement was followed quickly by numerous investigations by other observers Previously, Spriggs, at the suggestion of Starling, had tried intravenous injections of secretin, free from depressor substance in a diabetic patient, and had obtained negative results Moore, Edie and Abram gave their secretin by mouth over long periods Of the five cases cited in their first paper, two were negative The third was that of a man, aged 25, who received daily 30 c c of secretin After a latent period of three weeks, the sugar suddenly fell, and after four months the urine was sugar-free Six months later a relapse occurred with the development of phthisis and death The other two patients were a boy, aged 7, and a girl, aged 9, whose urine in from three to five weeks became sugar free during the secretin treatment in spite of severe diabetes One of these patients later relapsed [35] Bainbridge and Beddard[36] gave secretin a thorough trial in three cases with negative results, and are disposed to attribute the results of Moore to dieting Dakin and Ransom[37] cited one case, secretin being given for twelve weeks, with negative results, Foster,[35] nine cases, all negative, Charles,[38] three cases, all negative Crofton,[39] however, gave secretin a trial in one case with favorable results Moore, Edie and Abram, in a later paper,[40] report a large number of cases tried with the majority of results negative, though in some cases an improvement in the digestion, and in certain cases an increase of weight was noted

One method of testing the basis of Moore's theory would be by examining the prosecretin content of the intestine in diabetics Bainbridge and Beddard found, in the paper referred to,[36] that from five of the six cases of diabetics examined postmortem, little or no secretin could be prepared, but in a subsequent report of seven cases,[41] they found only one in which the secretin obtained was scanty The failure to obtain secretin in some cases they claim is probably due to the rapid postmortem degeneration of diabetic tissue Evans,[42] in Starling's laboratory, found that in dogs made recently diabetic by total pancreatectomy, but little secretin could be obtained Hedon and Lisbonne,[43] and Pemberton and Sweet[44] report, on the contrary, that the duodenum of diabetic dogs is rich in prosecretin Bainbridge and Beddard,[41] working on a diabetic cat, likewise found prosecretin to be present in normal quantity

Digestive Disturbances—Secretin for digestive disturbance was first used in the "acid duodenal medication of Enriquez [45] This consisted in the giving of tartaric acid in thick keratin capsules, the acid not being liberated until the duodenum was reached, where it provoked the formation of secretin "The secretin mechanism," he says, "is probably capable of pathologic disturbance as would result, for example, with diminished acidity of chyme, disturbance of the normal motility of the stomach or pylorus, or diminished prosecretin in the mucosa Such a condition would produce disturbance of the pancreatic, biliary and intestinal secretions, and interfere with intestinal movements, with a clinical syndrome of intestinal dyspepsia as a result, among the chief and most constant symptoms of which would be constipation" "The acid duodenal medication" was submitted to wide clinical use, and very favorable results in certain obstinate cases of constipation were reported In regard to "diminished prosecretin in the mucosa," Wentworth[46] has claimed that in infantile atrophy such is the condition, but Sweet and Pemberton[47] have found that the difficulty of preparing secretin from human duodenums is such as to render Wentworth's findings inconclusive

Beveridge[48] suggests the use of secretin in (*a*) pyloric stenosis, (*b*) pancreatic insufficiency, (*c*) hepatic stimulation and cirrhosis of the liver (*d*) to stimulate peristalsis in colonic stasis, (*e*) in gastro-enterostomy and short-circuiting of the intestines He claims to have used it in over a hundred cases with "brilliant results," and cites four typical histories The G W Carnrick Company, which manufactures "Secretogen," an alleged secretin preparation cites a number of authorities[49] as also recommending secretin for digestive disorders Harrower, who is or was connected with the Carnrick Company, in clinical journals[50] has ardently advocated the use of secretin for a large number of maladies

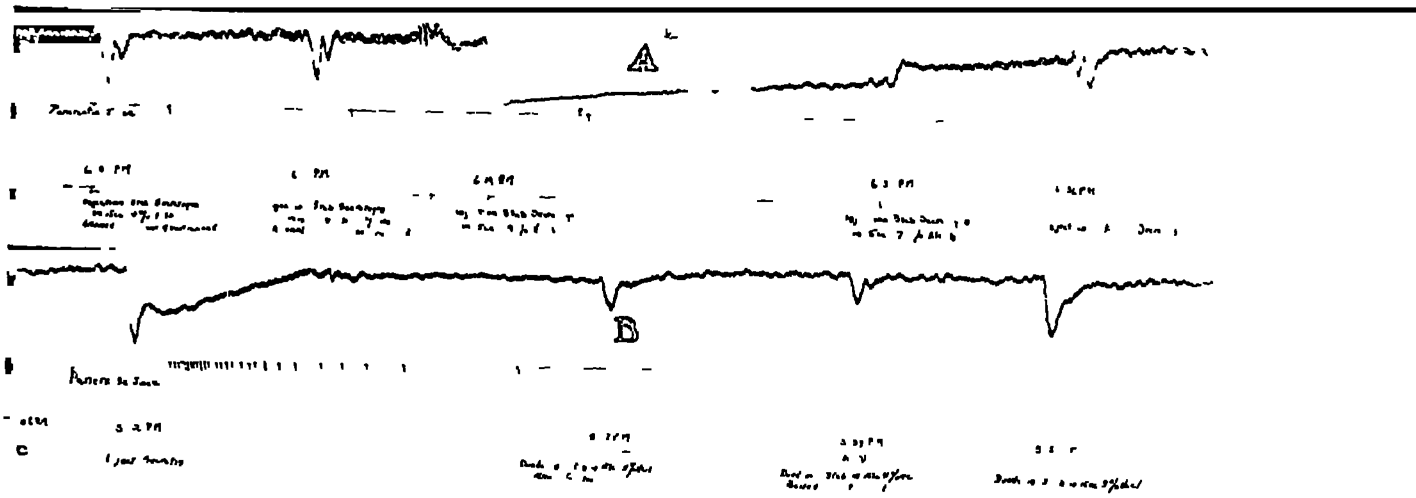


Fig 1—Tracings (reduced two thirds) showing failure of Secretogen, Elixir Secretogen, and Duodenin to stimulate the flow of pancreatic juice even when administered intravenously in amounts three times greater than that recommended to be given by mouth Dog, light ether anesthesia, cannula in the pancreatic duct, *a* carotid blood pressure, *b* flow of pancreatic juice in drops, *c*, signal showing where the intravenous injections were made Tracing A Reading from left to right, the five intravenous injections are (1) three tablets of Secretogen digested with 15 c c 0 4 per cent hydrochloric acid and neutralized, (2) three tablets of Secretogen boiled in 15 c c 0 4 per cent hydrochloric acid and neutralized, (3) three tablets of Secretogen in 15 c c 0 9 per cent sodium chlorid, (4) three tablets of Secretogen in 15 c.c of 70 per cent alcohol, (5) 15 c c Elixir Secretogen Tracing B reading from left to right, the four intravenous injections are (1) 5 c c secretin made fresh from dog's duodenal mucosa, (2) three tablets of Duodenin digested in 15 c c 0 4 per cent hydrochloric acid and neutralized, (3) three tablets of Duodenin boiled in 15 c c 0 4 per cent hydrochloric acid and neutralized, (4) three tablets of Duodenin in 15 c.c sodium chlorid (0 9 per cent)

PHYSIOLOGIC CONSIDERATIONS

Throughout its clinical use, secretin has been given by mouth, *but its direct introduction into the intestine of a dog under anesthesia in even enormous quantities is without effect* This fact, first observed by Bayliss and Starling,[2] was confirmed by Fleig,[51] and Matuso,[6] and our personal experiments have convinced us of its truth Matuso found that ordinary secretin and that obtained from intestinal lumen gave equally negative results Large quantities of active secretin, moreover, acidified to 0 2 per cent hydrochloric acid and left in the ileum for fifteen minutes, were still negative Wertheimer and Duvillier,[52] in a previous paper on this subject, had likewise found that acid solutions of secretin (which might be considered more normal for the intestine than when neutral), when introduced into the ileum gave negative or inconstant results They conclude that it is more likely that the pancreas does not respond to such minimal stimuli, than that the secretin is not absorbed

The destructive action of the digestive enzymes leads us to believe that it is in inactive form that secretin is absorbed Like epinephrin, it cannot pass through the digestive tract Bayliss and Starling state that it is destroyed by one hour's tryptic digestion Lalou[21] worked with the action on secretin of pepsin, dog's gastric juice, pancreatic juice, succus entericus and erepsin, and found in each case a destructive effect, even almost after mixing, and after five minutes over 75 per cent of the activity had disappeared Matuso[6] introduced 30 c c of active secretin into the intestine, removed it five minutes later, and found that no activity remained

Other methods of administration have been tried Subcutaneous injections are practically negative (Matuso,[6] Hallion[53]) and intrapleural injections are likewise negligible (Bayliss and Starling[26])

Starling[38] finds that continued intravenous injections of secretin in a healthy dog produce after a time severe symptoms of collapse, which, he believes, are due to change in the intestinal mucous membrane caused by the entry and non-neutralization of the strongly alkaline pancreatic juice

Intestinal digestion seems little affected in achylia gastrica (Stockton,[54] Ehrman and Lederer,[55] Bayliss and Starling[2]) This may be due to other secretin stimulants as fats, or to the action of the nervous mechanisms (Meltzer[56])

THE DESTRUCTION OF SECRETIN BY HUMAN GASTRIC JUICE

We have carried out in detail experiments on the digestive effect of human gastric juice on secretin Our results in every respect confirm the findings of Lalou,[21] who worked with commercial pepsin and dog's gastric juice, but are even more striking because of the much superior quality of pure human gastric juice

Methods—The human gastric juice was obtained from Mr V, the gastric fistula case of our laboratory The chemical and digestive characters of his juice are discussed in a recent paper [57] In the different experiments, different samples of gastric juice were used The secretin employed was always freshly prepared

Digestion was carried out in the incubator at 38 C with the reaction of 0 4 per cent acid, and the end of the period was marked by either boiling the mixture or (in the first two experiments) by turning the mixture alkaline The action of the preparation, we proved, was not influenced by the method used The dogs on which the preparations were tested were prepared for carotid blood pressure, injection into the external jugular vein, and cannula in the pancreatic duct, essentially the methods of Bayliss and Starling[2] being employed The preparations were injected at body temperature after being neutralized and filtered Except for the addition of normal salt solution instead of gastric juice, the control injections of secretin were submitted to exactly the same treatment as the other preparations

Results—Our results are embodied in Table 1 We assured ourselves before beginning the series that incubation of secretin with *boiled* gastric juice produced no change It is to be noted in the table that each experiment is a unit complete in itself, beginning and ending with a control injection of secretin *Special attention is called to the marked destruction that follows contact of human gastric juice with secretin for merely one minute* In Experiment 4, using 1 c c of human gastric juice, the action fell to 14 drops from an original secretion of 21, in Experiment 5, using 8 c c of gastric juice, the action fell to 6 drops from an original secretion of 20 Of interest also is the rate at which we get *complete* destruction of secretin This is practically 2 hours for 2 c c with a secretin giving originally 110 drops (Experiment 2, Fig 1), or 30 minutes for 5 c c with a secretin giving originally 53 drops (Experiment 6) These results are practically parallel, though they were obtained with different samples of gastric juice and in different experiments

TABLE 1—THE DESTRUCTION OF SECRETIN BY HUMAN GASTRIC JUICE

No of Experiment	Quantity of Gastric Juice Used c.c.	Secretion of Pancreatic Juice in Drops							
		10 c.c. Secretin Control—Beginning Experiment	The Secretin after Incubation with Human Gastric Juice						10 c c Secretin Control—End of Experiment
			Dig Time Hrs	Secretion Rate	Dig Time, Hrs.	Secretion Rate	Dig Time Hrs	Secretion Rate	
1	2	28	6	0	4	0	2	0	16
2	2	110	2	7	1½	18	1	18	41
3	2	40	1	7	¾	7	¼	8	31
4	1	21	½	11	¼	12	1/60	14	18
5	8	20	1/6	1	¼	3	1/60	6	18
6	5	53	½	2					

TABLE 2—EXPERIMENT 7*

Preparation	Pancreatic Juice Drops
10 c c secretin	20
10 c c secretin digested with 0 5 c.c. gastric juice	15
10 c c. secretin digested with 3 c.c gastric juice	13
10 c c. secretin digested with 10 c.c gastric juice	8

* The digestive time was kept constant at fifteen minutes. (The gastric juice used had been *diluted* with stomach washings)

We also tried the effect of keeping the digestive time *constant* and varying the amount of gastric juice employed Increasing the quantity of gastric juice used increases the quantity of secretin destroyed (Table 2)

The reader will observe in Table 1 that the results obtained from the control injection of secretin at the beginning of the experiment is uniformly greater than after several injections of digested secretin In view of the established fact that equal quantities of secretin can generally be relied on to produce results,[21] one might suggest that the injections of the split products of secretin has inhibited to some degree the action of the pancreas We can submit the data in Table 3 in support of this view, showing among other things that the action of secretin is not influenced by previous injections of inert depressor substances, though it is by the injection of the cleavage products of secretion (The various injections in the experiments were made at about fifteen-minute intervals)

TABLE 3—EXPERIMENTS 8 AND 9

Preparations	Pancreatic Juice Drops
Experiment 8	
10 c c. secretin, five injections of inert depressor substances	29
10 c c secretin two injections of completely digested secretin	28
10 c.c secretin, eight injections of inert depressor substances	16
10 c.c. secretin	16
Experiment 9	
10 c c secretin (control beginning of experiment)	21
10 c.c secretin, after thirty minutes incubation with 1 c.c *boiled* gastric juice	27
10 c c. secretin, after thirty minutes incubation with 1 c c. *fresh* gastric juice	11
10 c c secretin (control end of experiment)	18

We have carefully analyzed the reaction in blood pressure that follows the injection of the various preparations We find no constant effect Digested secretin gives a fall in blood pressure that is at times less, at times equal, and at other times greater (Fig 1) than that produced by the original preparation

Besides the bearing that it has on *the therapeutic use of secretin*, this destructive action of the digestive enzymes is also of prime physiologic interest Failure to realize it has led to misconceptions as to the intrinsic nature of secretin The findings of Lalou, confirmed by us, explain the anomaly that has led Delezenne[58] to put forward the antisecretin theory

SECRETIN HAS NO ACTION WHEN GIVEN BY MOUTH

It is a constant claim that so many and complex are the factors concerned in physiologic processes, that it is not unusual for clinical deductions to establish themselves in the face of *a priori* laboratory dicta We considered it desirable, therefore, to test the action of secretin, orally administered, in the most direct manner, and the one freest from possible criticism With this in view, we performed a series of experiments on normal unanesthetized dogs having permanent pancreatic fistulas

Method—In the operations for permanent pancreatic fistulas we followed closely the technic developed by Pawlow,[59] and with excellent results The dogs maintain themselves in splendid condition if proper care is taken This consists in feeding them only with bread and milk, and giving sodium bicarbonate daily The dogs were given this treatment in the evening so that experimental procedure might be carried on in the day with an empty stomach under constant conditions Freshly prepared secretin in large quantities was given by stomach tube to these dogs, and the response of the pancreas studied and compared with the response obtained from control preparations The same preparation was generally not given on consecutive days

Results—We have data from six dogs with a total of seventy-six experiments As shown in Table 4, the administration of secretin causes an increase in the flow of pancreatic juice, *but* the administration of inert substances as extracts of colon, gastric mucosa or muscle causes a like increase The activity of the secretin may be reduced to a low value by exposure to sunlight, or filtering through a Berkefeld filter, yet the response of the pancreas is not correspondingly reduced The secretion that occurs in the control cases, every one will admit, is but secondary to the production of gastric juice with its accompanying hydrochloric acid, that is, excited by virtue of the extractives and water in the preparations Such, we can prove, is the only action of secretin A mixture of gelatin, peptone and salt water, the chief incidental constituents of a secretin preparation, gives as striking results as ever obtained from secretin administration Yet the objection may be made that the response of the pancreas that is due to the incidental constituents of secretin is maximal, and that the secretin consequently has no opportunity to display its particular potency But, as inspection of the accompanying tables illustrates, the administration of hydrochloric acid shows that the response is by no means maximal Let us cite a striking experiment For three hours before the administration of hydrochloric acid, the secretion in cubic centimeters was respectively 29 4, 11 75 and 35 4 c c , for the three hours after, 88 0, 49 0 and 40 5 c c

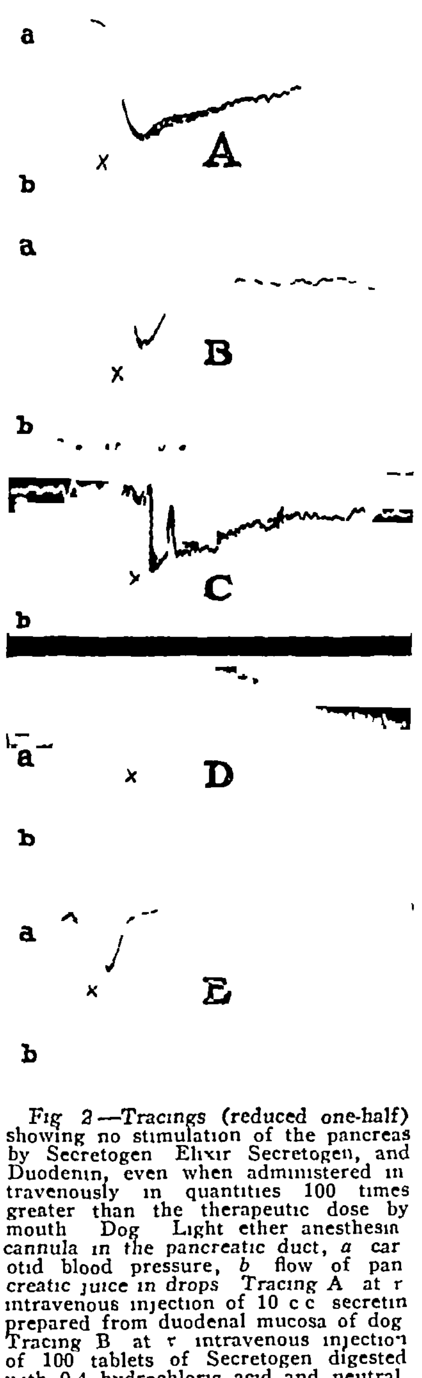


Fig 2—Tracings (reduced one-half) showing no stimulation of the pancreas by Secretogen Elixir Secretogen, and Duodenin, even when administered intravenously in quantities 100 times greater than the therapeutic dose by mouth Dog Light ether anesthesin cannula in the pancreatic duct, *a* carotid blood pressure, *b* flow of pancreatic juice in drops Tracing A at *x* intravenous injection of 10 c c secretin prepared from duodenal mucosa of dog Tracing B at *x* intravenous injection of 100 tablets of Secretogen digested with 0 4 hydrochloric acid and neutralized Tracing C at *x* intravenous injection of 100 tablets of Secretogen, prepared as in Tracing B Tracing D at *x* intravenous injection of 50 c c Elixir Secretogen Tracing E at *x*, intravenous injection of 100 tablets of Duodenin (dissolved in 0 9 per cent sodium chlorid)

It is possible by large doses of sodium bicarbonate given shortly before the administration of a preparation so to depress the stomach that it does not respond with the usual production of hydrochloric acid Under these conditions the administration of secretin is uniformly negative, but the administration of hydrochloric acid on the contrary still serves to increase the pancreatic secretion (Table 6)

COMMERCIAL PREPARATIONS OF SECRETIN

Secretogen and Elixir Secretogen—The Carnrick Company offers Secretogen[60] for use in a large number of conditions The following indications for the use of the preparation purport to be based on clinical tests covering a period of several years dyspepsia, and the indigestions generally, fermentative disorders, gastric catarrh, flatulence, nausea, pancreatic insufficiency, intestinal indigestion, gastric secretory deficiencies, apepsia, constipation and hepatic torpor, intestinal stasis, diarrhea, infantile diarrhea, "summer complaint," marasmus, inanition and malnutrition, gastric atony and dilatation, cholecystitis and gallstones, nephritis, neurasthenia, cachexia and cancer, epilepsy and high blood pressure Testimonials are presented as to results in most of these conditions

A quantity of "Secretogen" and "Elixir Secretogen" was bought in the open market, and the preparations were tested on suitably prepared dogs The tablets were ground, thoroughly macerated with the solvent used (water, normal salt solution, alcohol, or 0 4 per cent hydrochloric acid), and filtered If hydrochloric acid was used, the pulverized tablets were boiled with it, in the manner that secretin is made from duodenal mucosa, and the preparations neutralized previous to injection The injections were made in from 15 to 20 c c of the solvent All the operations were carried on immediately before the experiment, and as rapidly as possible, so as to avoid oxidation Elixir Secretogen was injected directly, without dilution

TABLE 4—DETAIL OF TYPICAL EXPERIMENTS

Dogs with pancreatic fistulas, showing that secretin given by mouth has no action on the pancreas

Material Fed by Stomach Tube	Rate of Secretion of Pancreatic Juice in c c Per Hour					
	Continuous Secretion Before Feeding			Continuous Secretion After Feeding		
	First Hour	Second Hour	Third Hour	First Hour	Second Hour	Third Hour
150 c.c. active secretin, slightly acid	6 5	3 6	3 9	20 0	6 0	8 0
150 c c. active secretin, slightly alkaline	13 0	11 0	5 0	23 0	26 0	12 0
150 c c secretin passed through Berkefeld	7 8	7 5	7 4	23 0	13 0	11 0
150 c c extr ct of colon	11 6	12 0	11 4	30 0	19 6	14 8
150 c c extract of gastric mucosa	10 0	7 0	8 0	23 0	7 5	4 0
150 c c extract of muscle	6 9	11 0	6 4	35 0	5 0	7 0
150 c.c 0 4% HCl (diluted to 250 c c)	6 0	8 0	4 0	33 0	36 0	17 0

Results.—In only one case was a slight response obtained; the others gave none. Small and large doses were equally inert (Table 7, Figs. 2, 3). The preparations, though inert, always produced a depression in blood pressure, sometimes even greater than that caused by active secretin. Among our many tests, one bottle was found, however, to be a little different from the rest (Experiment 4). Its entire content, 100 tablets, had been ground and boiled in 0.9 per cent. sodium chlorid. The extract on injection was found to have a small but unmistakable secretin reaction, equivalent to about 2 c.c. of the control secretin used. But repeated experiments were unable to duplicate this result. The "Secretogen" and "Elixir Secretogen" were all supposedly fresh preparations, the retail drug store informing us that a fresh supply was obtained from the wholesale house each week.

Secretogen, then, contains practically no secretin, and even if it did contain secretin, it can have no effect on the pancreas when taken by mouth. The indications for Secretogen, therefore, are based on false premises, and the testimonials are worthless.

Duodenin.—This is a preparation manufactured by Armour & Company, which purports to be "secretin plus enterokinase." The claims for this product are similar to those for Secretogen, but somewhat less sweeping. According to the manufacturers, "Duodenin (Armour) is recommended in the treatment of intestinal disorders where an increased flow of pancreatic, hepatic and intestinal secretion is desired. It is of specific value in proteid digestion on the theory that secretin and enterokinase stimulate the pancreas and activate its secretion."

We bought a quantity of Duodenin in the open market, and carried out on this product the same series of experiments as that used in the case of Secretogen. The results were similarly negative (Table 8).

In regard to both Secretogen and Duodenin, we assume that the manufacturers have tried to put secretin in them, but have been unable because they have failed, in all likelihood, to check their methods by physiologic standardization. These firms do not give any details as to the procedure they employed in their manufacture of secretin. Desiccated secretin of extreme potency has been prepared by various physiologists,[91] 1 mg. (1/64 grain) of which is active when given intravenously. It is difficult to conceive that any of these methods were used in the preparation of Secretogen or Duodenin.

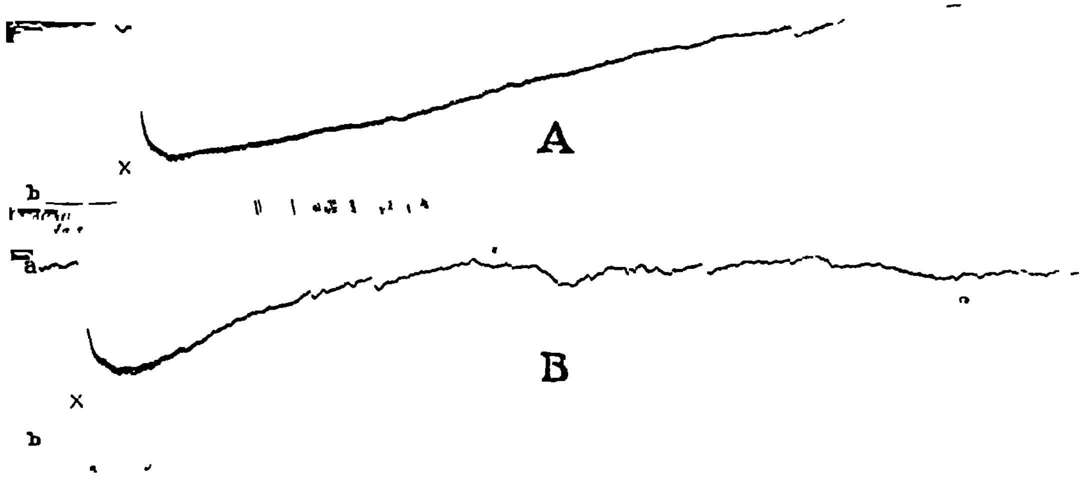


Fig. 3.—Tracings (reduced one half) showing practically complete destruction of secretin by the gastric juice. Dog under light ether anesthesia; cannula in the pancreatic duct. *a*, carotid blood pressure; *b*, record of flow of pancreatic juice in drops. Time, twenty-five minutes. Tracing A, intravenous injection of 10 c.c. secretin (prepared fresh from dog's duodenal mucosa) at *x*. Tracing B, intravenous injection (at *x*) of 10 c.c. of the same secretin as in Tracing A, after being digested in normal human gastric juice at 37 C. for two hours.

CONCLUSIONS

1. Secretin is quickly destroyed by gastric juice and by trypsin.

2. Secretin is not absorbed in active form from the alimentary tract.

3. The presence of secretin or prosecretin cannot be demonstrated in the commercial preparations "Secretogen," "Elixir Secretogen" and "Duodenin" even

TABLE 5.—SUMMARY OF EXPERIMENTS

Dogs with pancreatic fistula; weight, 14 kg. Secretin given by mouth

No. of Experiment	Material Fed	Rate of Secretion of Pancreatic Juice in c.c. Per Hour		Increase in c.c.
		Three Hours Before Feeding	Three Hours After Feeding	
3	Secretin slightly acid	5	11	6
5	Secretin slightly alkaline	24	30	6
4	Secretin passed through Berkefeld	18	23	5
1	Secretin exposed to sun for four hours	16	29	13
2	Extract of colon (rabbit)	19	29	10
3	Extract of gastric mucosa	14	23	9
3	Extract of muscle	8	16	8
2	Mixture of gelatin, peptone and salt	23	33	10
1	1 per cent. peptone solution	6	8	2
4	0.2 per cent. hydrochloric acid	13	37	24
3	Milk and bread	7	22	15

when the therapeutic dose of the preparations is given intravenously In the case of "Secretogen," intravenous injection of 100 times the therapeutic dose reveals occasionally an insignificant trace of secretin

DISCUSSION OF RESULTS

It is, of course, objectionable that preparations containing no secretin should be advertised to the medical profession as containing this substance The more important blunder, however, consists in the attempt to offer such preparations for oral administration, because even chemically pure secretin would be equally ineffective when taken by mouth There is as yet no reliable evidence that lack of secretin is a primary or important factor in any disease Even should this be established, secretin therapy, to be effective, must be intravenous Secretin has not yet been prepared in sufficiently pure state to render possible intravenous injection in man without injurious effects And even when this has been attained, the very fleeting action of secretin will in all probability render secretin therapy as futile in all the diseases in which it is theoretically indicated as epinephrin therapy is in Addison's disease

But there remains the alleged favorable effect from secretin therapy by mouth in various diseases in man It is, perhaps, impertinent for laboratory men to comment on these clinical results The ordinary "testimonials" need not be considered, but we should like to ask the serious worker who thinks he has actually obtained good results from secretin therapy how certain he is of the causal relation between the giving of secretin or alleged secretin and the abatement of the disease

When a therapeutic measure not only lacks a positive basis in physiology and pathology but runs contrary to all the well-established experimental facts in these fundamental medical sciences, is it too much to ask that positive clinical findings be subjected to more than usual critical analysis before acceptance? *"Clinical tests,"* it is said, "covering a period of several years have proved that neither the condition in the stomach during digestion nor those in the intestine

TABLE 6—SECRETIN IN EXPERIMENTAL "ACHYLIA GASTRICA"

Exp No	Material Fed	Rate of Secretion of Pancreatic Juice in c c Per Hour					
		Continuous Secretion Before Feeding *			Secretion After Feeding		
		First	Second	Third	First	Second	Third
1	150 c c secretin	8 7	7 5	6 8	3 0	1 0	4 8
2		4 5	6 5	10 0	6 0	7 5	7 6
3		15 6	8 1	16 0	3 9	4 9	2 9
1	150 c c 4% HCl (diluted to 250 c c)	9 8	7 0	6 0	65 1	28 0	7 1
2		17 4	13 5	17 0	34 0	18 0	20 0

* Five gm Na HCO_3 given at beginning of each first two hours

TABLE 7—SUMMARY OF TYPICAL EXPERIMENTS SHOWING THE ABSENCE OF SECRETIN IN "SECRETOGEN" AND "ELIXIR SECRETOGEN" EXCEPT IN OCCASIONAL TESTS WHEN ADMINISTERED IN ENORMOUS DOSES

Dogs under ether anesthesia

Exp No	Quantity of Secretogen and Elixir Secretogen Used *	Secretion of Pancreatic Juice in Drops, Following Intravenous Injection						
		Control 10 c c Secretin	Secretogen in				Elixir	Control 10 c.c Secretin
			Distilled Water	0 4% HCl	70% Alcohol	0 9% NaCl		
1	Secretogen, 1 tablet Elixir 15 c c	109	0	0	0	0	0	69
1	Secretogen, 6 tablets			0				
2	Secretogen, 3 tablets Elixir 15 c c	16	0	0	0	0	1 (?)	16
3	Secretogen, 5 tablets			1 (?)				
4	Secretogen, 25 tablets	14		1 (?)				8
5	Secretogen, 100 tablets	110				21		67
6	Secretogen, 100 tablets, Elixir, 125 c c	19		5		1	2 (?)	8
7	Elixir 50 c c						1 (?)	

* One to three tablets is (according to the label) the therapeutic dose of Secretogen 4 to 12 c c the dose of Elixir Secretogen

TABLE 8—SUMMARY OF TYPICAL EXPERIMENTS SHOWING THE ABSENCE OF SECRETIN IN "DUODENIN"

Dogs under ether anesthesia

Exp No	Number Duodenin Tablets Used	Secretion of Pancreatic Juice in Drops, Following Intravenous Injection					
		Control 10 c c Secretin	Duodenin in				Control 10 c c Secretin
			Distilled Water	0 4% HCl	70% Alcohol	0 9% NaCl	
1	3	29	0	0	0	1 (?)	28
1	6			1 (?)			
2	18	16		6			16
3	5	14		0	0	0	8
3	25			1 (?)			
4	100	110		0			67
5	150	19		0		0	8

prevent the secretin from entering intact into the circulation" When we meet claims such as this, should we not scrutinize the "tests" as well as the men who make them?

We are indebted to Dr J H Moorehead for assistance in part of the surgical work

---

TRICHOKYPTOMANIA

RICHARD L. SUTTON, MD
KANSAS CITY, MO

Of the various unusual disorders which occupy a position on the borderline of dermatology, none are of greater interest than those neurodermatoses characterized by habit spasm In addition to the "tic de l'epilation" of Raymond[1] (trichomanie,[2] or trichotillomania[3]), and the "dermatothlasia" of H Fournier,[4] there exists a third type, which may be designated as "trichorrhexomania" or better, "trichokyptomania"

It is probable that in many instances the condition is present as a complication of either trichotillomania or dermatothlasia, but occasionally, as in the following instance, it exists alone

C S, woman, aged 18 single stenographer a native resident of Kansas, referred to me by Dr Eugene Carbaugh of Kansas City during the past two years has been the subject of a peculiar patchy form of baldness of variable degree The family history is negative with regard to both nervous and cutaneous diseases The father is living and well at 44 and the mother enjoys excellent health at 42 There is one other child a girl of 16 who has never experienced a serious illness The patient is a robust well-nourished girl with brown hair and eyes She has always been of a nervous temperament and as a child frequently sucked her fingers and chewed her nails She has never been troubled with adenoids or other obstructive disorders of the upper air passages She first menstruated at the age of 14 years, and since that time her monthly illnesses have occurred regularly and painlessly During the past two years the patient's associates have noted the presence of a peculiar, irregular, patchy type of baldness, which at first involved only the eyebrows and the lashes, but later extended also to the parietal and the postauricular regions It was for relief from the alopecia that advice was sought

A careful general examination revealed nothing abnormal The patient was intelligent and mentally alert, and presented no stigmata of degeneration The unbroken hair shafts were smooth, and apparently normal in every way, and exhibited no tendency to trichorrhexis nodosa, monilethrix or other parasitic or trophic disorder The hair loss was fairly symmetric, and involved the eyebrows and upper lashes, and the right and left parietal and postauricular regions In these localities the shafts were short and stiff, and the distal extremities of many were jagged or split The tips of a considerable number were broken squarely across, however as if the filament had been clipped off with a pair of sharp shears

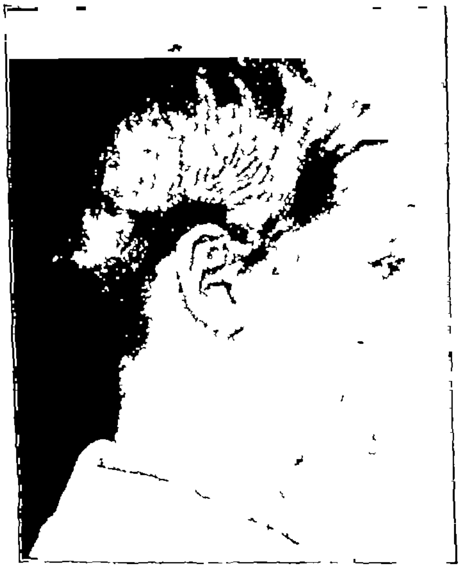


Fig 1 —Trichokyptomania showing character and extent of hair loss on right side of head

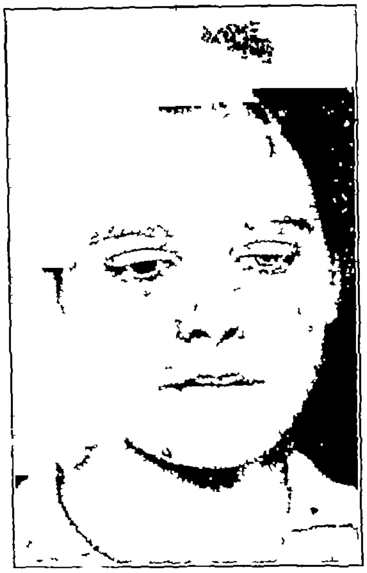


Fig 2 —Trichokyptomania showing character and extent of hair loss in orbital and palpebral regions

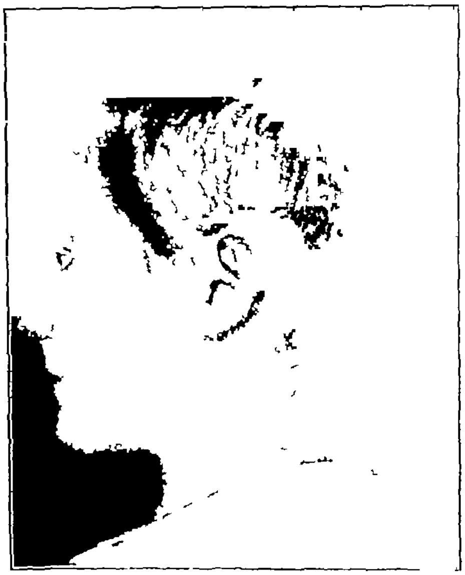


Fig 3 —Trichokyptomania showing character and extent of hair loss on left side of head

The patient at first disclaimed all responsibility for the presence of the condition, but later, when the matter was fully explained to her, and her cooperation sought, she consented to demonstrate the method employed in getting rid of the shafts One or two rarely more, of the filaments were firmly grasped between the tips of the thumb and forefinger and quickly twisted into the form of a small figure 8 probably for the purpose of securing additional leverage The shafts were then swept across the sharp saw-like edge of the nail in such a manner that they were broken off short, at a distance of from 0.2 to 0.5 cm from the surface of the skin The girl asserted that epilation rarely if ever occurred and a careful examination of the discarded shafts bore out the truthfulness of her statement. The nervous affection was most troublesome when the patient was worried or idle and alone During these periods she would sit and gaze into space often for hours at a time meanwhile breaking off and throwing away one hair shaft after another

The patient was referred to Dr Andrew L. Skoog's service in the Neurological Department of the University of Kansas School of Medicine Under a course of psychotherapy appreciable progress toward recovery has been made in the course of a few weeks

728 Lathrop Building

---

[1] Raymond Jour d Pract 1905 p 685 Jour de med. int. 1902 p 195

[2] Besnier Monatsh f prakt Dermat. 1889 ix 572

[3] Hallopeau Ann de dermat et de syph. 1889 x 440 ibid 1897 p 541 Brocq Traite elementaire de dermatologie pratique Paris 1907 ii 108 Reme These de Paris 1906 Verrogeau These de Bordeaux 1908 Sutton R L Trichotillomania The Journal A M A Dec 12 1914 p 2126 Martin J C Trichotillomania ibid April 10 191 p 1236.

[4] Fournier H Jour mal cutan et syph 1898 x 2 5

AN AUTOMATIC SPINNING DEVICE FOR THE HARVARD KYMOGRAPH

G Bachmann, M D, Atlanta, Ga
Professor of Physiology, Emory University (Atlanta Medical College)

The object of the device is to provide a cheap, simple and accurate means of automatically spinning a kymograph drum for one revolution The essential parts of the device consist of a "trigger" to release and arrest the drum and an ordinary rubber band, 6 mm wide The trigger (Fig 1) consists of a brass rod, 1 cm in diameter and 18 cm long, near the center of which is soldered a strip of spring brass 1 5 mm thick and 10 mm wide, shaped as shown in the diagram A copper rivet 12 mm long is passed through a hole in the spring at a distance of 30 mm from its free extremity In order to insure strength and rigidity, the burr is driven in and solder made to flow to all points of contact Three slight modifications are made in the Harvard drum, namely, the spring clip which serves to hold the drum to the axle is replaced by a sleeve and thumb screw (seen above the drum in Figure 2), a steel pin 5 mm in diameter and 20 mm long is screwed into the bottom of the drum near the periphery, finally, a bent wire is soldered to the top of the base of the kymograph *overhanging the edge, or this bent wire may be* held in a binding post as shown in Figure 2

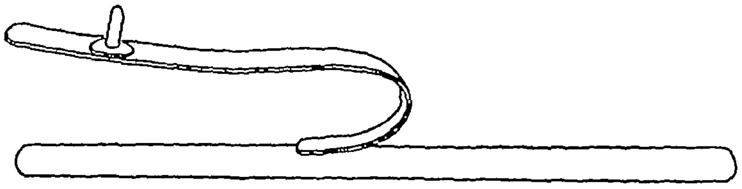


Fig 1—Trigger

The trigger is firmly mounted on a stand in such a position that the pin at the base of the drum will pass along the curve of the spring with slight friction and be stopped by *the projecting rivet* One end of the rubber band having been placed in the jaw of a double clamp fixed to the drum axle and the other end passed under the bent wire, the drum is rotated by hand from left to right until the pin has passed the rivet This rotation twists the rubber band as seen in Figure 2 The drum can then be allowed to spin for one rotation by simply pressing on the trigger with the thumb and then releasing it Automatic stimulation by a break induction shock can be *obtained* by placing the hard rubber handle of Porter's simple key in the path of the pin projecting from the bottom of the drum, the simple key being, of course, in circuit with the primary of the inductorium The key is held by means of a buret clamp

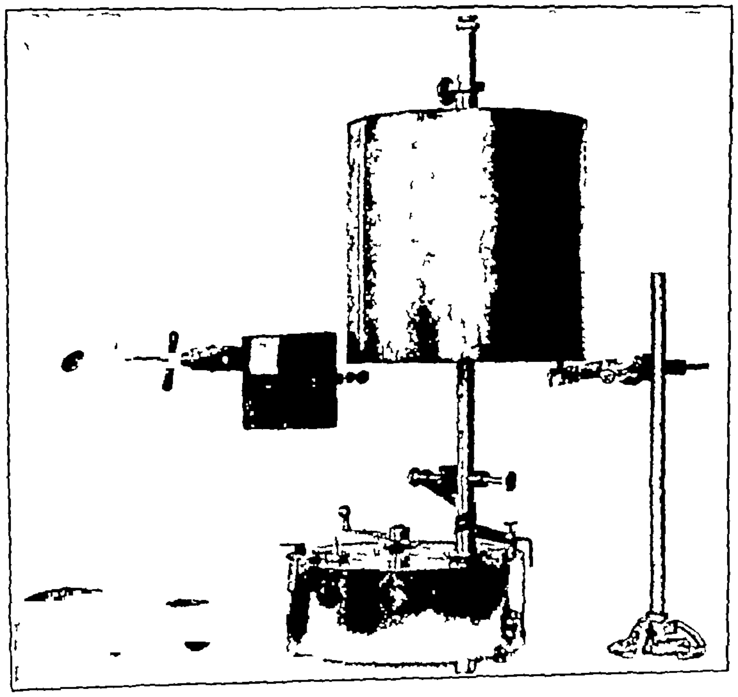


Fig 2—Kymograph with automatic spinning device

As it is absolutely necessary that the apparatus shall be perfectly stationary, the kymograph *and the* stand holding the trigger must be fastened either to the table or, when this is objectionable, to a board of appropriate size The simplest way of making the kymograph stationary is to bore three holes adapted *in* position and size to the feet of the base Holes of the proper size can be made with an auger-bit *seven-sixteenths inch in diameter When* the feet are placed firmly in these holes, rotation or tilting cannot take place The stand holding the trigger is made of what is known in the electric fixture trade as a crow's foot and a piece of *one-eighth inch pipe* (internal diameter) The crow's foot is fastened to the table or board by means of stove bolts

This device can be used for recording superimposed curves The recording points must, of course, be removed from the smoked surface after each curve is recorded before rotating the drum "backward" for the purpose of twisting *the* rubber band as explained above In order to insure a return of the writing points to their starting position on *the smoked surface,* a perpendicular *line should* be drawn *on* the latter with a kymograph T-rule after the apparatus has been adjusted as shown in Figure 2 The writing points should be made to fall on this perpendicular line The recording levers having been mounted on an adjustable stand, it is then an easy matter to move the levers to and from the smoked surface with accuracy as to position and degree of pressure

Excellent spinning devices for the Harvard kymograph have been described by Jackson (A Drum-Spinning Attachment for an Ordinary Kymographion, The Journal, June 10 1911, p 1705) and by Guthrie (Contributions to Practical Physiology and Pharmacology, published by the author, pp 51-65), but the one here presented, it is believed, is simpler in design and has given very satisfactory results in the hands of our students

---

A DIRECT ROUTE FOR DRAINAGE OF THE PANCREATIC AREA

Walter D Wise, M D, Baltimore

A case of acute pancreatitis was diagnosed as appendicitis and a McBurney incision made The appendix not being at fault, a high right rectus incision determined the diagnosis Drainage was provided through the foramen of Winslow and also through the McBurney incision The lower incision was *chiefly* depended on for the drainage, as it could be seen that this line was very direct, the pancreas being exposed by lifting the great omentum and transverse colon

This procedure is recommended for conditions of the pancreas demanding drainage

The advantages are

1 Its simplicity (as compared with the costovertebral incision)

2 It is more direct than the tract through the foramen of Winslow, and is more in the line of gravitation

3 By drainage through the foramen of Winslow or through the costovertebral angle, the lower abdomen, if contaminated, might not be drained

4 It is anatomically the correct line, as fluids from the *pancreatic region* (if in the peritoneal cavity) are directed to the right iliac region by the oblique shelf-like attachment of the mesentery

1800 North Charles Street

Water Pipes of Ship Polluted—Surgeon J Oliver Cobb has announced that hardly a single steamer in interstate commerce on the Great Lakes has an unpolluted water supply The intake system is polluted while the ships are in port and even after hours of steady pumping, pure water taken in mid lake is contaminated by the bacteria in the polluted tubes and water tanks

Therapeutics

THE CAUSE AND TREATMENT OF THE PRESENT EPIDEMIC OF "GRIP"

ETIOLOGY

The epidemic of influenza or grip of 1890 and succeeding years, which was characterized by pains and aches in the bones, inflammation of mucous membranes, fever, prostration often out of all proportion to local physical signs, and frequent complications involving gastro-intestinal and nervous systems, made a profound impression on both the profession and the public The word "grip" has become a popular term, readily accepted as a diagnosis of more or less severe infection not explained on any other more exact etiologic basis

Pfeifter isolated and described a small gram-negative bacillus, *Bacillus influenzae,* to which he ascribed the etiologic role in the causation of the disease Since then, this bacillus has been found in numbers of cases, but extensive bacteriologic studies by many workers indicate that while the influenza bacillus may occur in large numbers in the mucous membranes of the sufferer of grip, there are often other organisms associated with it which probably have a causative relation to the infection Six years ago, when cases clinically like grip were prevalent, studies of the bacterial flora in the discharges from nose and bronchi showed at the onset almost pure cultures of streptococci, later in the disease after the acute symptoms had subsided, organisms culturally like *B influenzae* appeared in enormous numbers Cultural studies of *B influenzae* show that it often grows much better when mixed in culture with other organisms

This apparent symbiosis may explain in part its pathogenic power when associated with other organisms, or, on the other hand, may be used as an argument that the real cause of the illness is another organism, such as the streptococcus, and that the influenza bacillus appears only later, growing readily on a soil prepared for it by the original infecting germ

Mathers,[1] in an instructive preliminary report on the bacteriology of the present epidemic in Chicago, found the predominating organism, in seventeen of twenty-four cases, a hemolytic streptococcus associated with other green producing streptococci and pneumococci In none of these cases was *B influenzae* found Similar results showing the prevalence of hemolytic streptococci have been obtained by other observers While it is probable that the influenza bacillus may be found in some cases, the foregoing findings indicate that a considerable proportion of sufferers in the present epidemic may charge their woes to other organisms than the influenza bacillus, and that the streptococcus is probably largely concerned in the disease The prominent clinical facts are the wide distribution of the infection, affecting persons in all stations of life, the evident highly contagious nature of the infection, and the great discomfort of the sufferers, due in part to the local disturbances from invasion of the several portions of the respiratory tract, and in part to the general malaise and prostration which accompany the local disease

SYMPTOMATOLOGY

Early in the epidemic many patients complained only of local irritation, either in the nose with later mucopurulent and sometimes blood-tinged discharge, or in the throat with dry red pharyngeal mucosa on which lymph follicles were prominent, or in the trachea and upper bronchi, with resulting laryngitis, and dry, harassing, unproductive cough Some of these patients suffered later from more severe second attacks, in which malaise, aching of bones and general constitutional disturbances were prominent

In those who escaped early in the epidemic, and have later suffered from the infection, the symptoms have been of varying severity, with apparently a larger proportion in which the more severe general symptoms including prostration and fever have been present Up to date the virulence of the infection has seemed to increase rather than diminish It is probable that the proportion of severe cases will soon begin to decrease if this epidemic follows the course of previously studied epidemics

Complications have been numerous, as so often happens in streptococcal infections Suppuration of the various sinuses have been frequent, and tracheitis, bronchitis, going on to bronchopneumonia, quinsy, and occasionally deep phlegmons of the neck have occurred At the height of infection, streptococci have been isolated from the blood in the severer cases, and arthritis has been noted in a few instances Otitis media has also occurred frequently, especially in younger patients and those who had been previously sufferers from this condition

The man whose back is aching and chest sore with coughing is not to be considered consoled with an academic discussion of the various germs probably concealed in his larynx He knows something is wrong, whether *B influenzae* or *Streptococcus hemolyticus* is responsible, and he wants relief

PROPHYLAXIS

In such a widespread epidemic, it might seem almost useless to attempt prophylaxis, particularly among those who are forced by their occupations to mingle with others on crowded cars, and in places of business One of the chief reasons for the spread of the disease lies in the fact that many of the infected persons are not severely ill, and so are able to go to and from their work, sneezing and coughing and thus transmitting the disease to others Much, however, can be accomplished by voluntary effort of those who cough and sneeze and expectorate, to protect those about them Those not infected should be instructed to avoid so far as practicable exposure in crowds, or in badly ventilated, overfilled rooms and meeting places Those who have recovered from a first mild attack may also profit by this advice, for experience shows that they are by no means immune and that the subject of one attack not infrequently suffers from a second more severe infection

TREATMENT

The prevention and treatment of influenza was discussed in this department of The Journal Jan 23 1915, p 341

It is often difficult to convince the patient with a beginning tracheitis or coryza that he should exercise special care in avoiding further exposure A day or two at home with rest and the usual simple remedies applied to a cold, will often be all that is necessary for a rapid convalescence A few days' care may prevent a long illness Those more severely afflicted with fever, chill, aching bones and cough are more easily persuaded to remain indoors When there is marked prostration or fever, rest in bed should be enforced Even though the infection is not severe enough to cause alarm, it leaves the body weakened and an easier prey to pneumonia, which has been prevalent during recent months

---

[1] Mathers George The Etiology of the Current Epidemic of Respiratory Infections in Chicago The Journal A M A. Jan 1 1916 p 30

Anything which makes the patient warm improves his condition He may be given hot malted milk, hot tea or hot lemonade, at more or less frequent intervals The patient may be given a hot tub bath and then put into a warm bed in a warm room as an efficient means of making him comfortable Hot water bags at the feet and extra coverings to the bed are often needed

The drug treatment of the attack is, of course, largely symptomatic Preparations of salicylic acid are perhaps the most widely used by many, and are believed to exert a favorable action on the course of the disease Acetyl salicylic acid (aspirin) in doses of from 5 to 10 grains every four hours gives relief from the general malaise and initial headache Other drugs such as acetanilid, antipyrin and acetphenetidinum are sometimes of benefit, provided that the patient is not subjected to exposure None of these drugs should be long continued, the most depressing is acetanilid, and perhaps the least depressant is acetphenetidinum Should depression occur, circulatory stimulants such as camphor or caffein should be given A hypodermic injection of strychnin, one-thirtieth grain, may be given to stimulate the nerve centers In persons unduly susceptible to salicylates, special care must be used in regulating the dosage In a small number of cases in which the nasal mucosa is chiefly affected, with much coryza, small doses of the extract of belladonna (from 1/20 to 1/10 grain) may be cautiously used with good effect A combination of aspirin, camphor and Dover's powder will sometimes be found of value

	gm or c c	
℞ Ac acetyl salicylic	6	ʒ iss
Pulv camphorae	.7	gr x
Pulv ipecac et opii (Dover)	4	ʒ i

M et fac capsulas xx
Sig *One capsule every three hours*

The following prescription is suggested

		gm or c c	
℞ Acetphenetidini		1.50	
Phenylis salicylatis	āā	1.50	gr xxv

M et fac chartulas 5
Sig *One powder every three hours*

Where there is much irritation of the throat, gargles of salt solution and mild alkaline solutions are advised Thus a mixture of hydrogen peroxid, alcohol and glycerin may be prescribed in the following combination

		gm or c c	
℞ Aquae hydrogenii dioxidi Alcoholis Glycerini Aquae cinnamomi	āā	50	℥ ii

M Sig *Use as a gargle diluted with four or more parts of water*

When there is pain or headache suggesting involvement of the nasal sinuses, sprays containing epinephrin will often give relief by allowing the escape of retained secretions Free evacuation of the bowels should be secured by the use of a mild saline cathartic

The general treatment must be supportive, conserving as far as possible the strength of the patient Indications for diet will depend on the severity of the illness For cases of ordinary severity, not confined to bed, a light nutritious diet should be ordered as soon as appetite for food begins to return Moderation of eating and avoidance of greasy and otherwise undigestible food, so important even in health, is especially important at this time

As soon as the patient begins to convalesce, he should be given tonics

COMPLICATIONS

From the standpoint of complications, this epidemic bears the earmarks of a streptococcus infection All patients should be carefully watched for complications, so that these may be met at the earliest moment As already noted, extensions of the infection to the accessory sinuses have been frequent, and the physician should be on the alert to interpret properly new symptoms such as an increase in headache, particularly when it is localized at some definite point Cellulitis of the tissues of the neck by extension from the throat, often without frank suppuration, has been noted Middle ear infections must also be kept in mind Whenever the course of the disease is prolonged or recurrence of symptoms of infection are noted, a painstaking search will often be rewarded by the discovery of some unsuspected complication which may be relieved by appropriate treatment

THE MORPHIN HABIT

In our discussion of this subject,[1] not enough emphasis was laid on the necessity of making a careful general examination of the morphin habitué before he is subjected to the withdrawal of the drug or to the severe treatment that is necessary to promote that object Cancer with pain, and any intense pain that will be present after the desire for morphin has been removed, precludes the necessity for treatment to remove the habit It was not sufficiently emphasized that old age, with its degenerations, and myocardial degeneration at any age must preclude all strenuous treatment in attempting to cure the morphin habit

A correspondent has called our attention to the fact that degeneration of the kidneys, as Bright's disease, is a serious complication in attempting to treat the morphin habit Certainly, any acute inflammation of the kidneys would contraindicate the treatment of the habit Also, it should be recognized that if the elimination of the kidneys is interfered with by disease, all eliminative methods used in the morphin cure will not act as satisfactorily as when the kidneys are healthy On the other hand, most of the elimination in these "cures" is through the intestine, also the toxins, which imperfect metabolism due to the morphin produces, must more or less aggravate chronic nephritis Hence it would seem that without chronic pain, the patient who has the morphin habit and chronic nephritis would be much better off when the morphin habit was removed The rapidity and intensity of the treatment should not be so great in these cases, and the synthetic hypnotics and narcotics should be used with more care or replaced by some other drugs, when the elimination of the kidneys is imperfect

---

[1] The Morphin Habit Therapeutics, The Journal A M A Nov 20, 1915, p 1815, Nov 27, 1915 p 1912

Dr H E Goetz of Knoxville, Tenn, the correspondent referred to, writes

To the Editor —Not every patient who comes to our hands with the simplest diseases can be permanently relieved Morphinism is by no means a simple disease, I regard it as one of the most complex diseases, and therefore we must select cases properly if we hope to cure. The worst barrier, I find, is disease of the kidney, and especially Bright's disease Next in importance is heart disease, and third, diseases of the respiratory tract. Chronic painful diseases, such as cancer, would completely preclude treatment Old age, in itself is not a barrier, but old age plus some organic disease would be a barrier

After we are assured that our prospective patient has none of the diseases mentioned, the treatment is begun by the administration of three compound cathartic pills U S P containing each 1 grain of calomel, with 10 grains of blue mass and 1/15 grain of strychnin sulphate. Six hours later this dose is repeated, minus the strychnin, and six hours following two ounces of castor oil The usual amount of narcotic is administered in the mode most acceptable to the patient during this period A few minutes following the administration of the castor oil, 3 grains of luminal are administered, and twelve hours later, the compound cathartic pills, without the strychnin, are repeated Three compound cathartic pills, with the strychnin are repeated at the end of the forty-eighth hour from the beginning of the treatment. Beginning with the dose of castor oil or at the eighteenth hour of the treatment luminal is given in 3-grain doses every six hours until the patient is quiet and will sleep if allowed to No set time can be named for the withdrawal of the narcotic. It should be withdrawn, however, as soon as the patient is sufficiently under the influence of the luminal, which may be stated as the time when the patient fails to ask for it which is generally about the sixtieth hour of the treatment. After the forty-eighth-hour-dose of the compound cathartic pills is given magnesium sulphate is administered each morning before breakfast time in 2-ounce doses, until the end of the treatment, or the twenty-eighth day Spartein sulphate in 1-grain doses every six hours I believe is a renal stimulant, and we have followed this method with good results

These patients frequently become so thoroughly narcotized that their condition closely resembles that of chloroform anesthesia—the surgical stage—and in most cases after the luminal has been given for five or six consecutive days, they will sleep four or more days before the luminal is eliminated to the extent of their voluntarily awakening During this sleeping stage, one should watch the elimination, the circulation and the respiration The respiration is usually quickened to 20 and the heart beat is from about 70 to 90 Slight rises of temperature are frequently seen The catheter should be freely used in case the patient does not void as often as every six hours

The patient should be fed with a stomach tube liquid of large bulk being used We have found that hot coffee 1 pint milk 1 quart, sugar 2 ounces every six hours answers admirably When the tube is passed for feeding, it is our practice to wash out the stomach before the food is administered as there are frequently present large quantities of bile which should be removed

On about the fourteenth to the sixteenth day we usually put the patient on Blaud's mass with arsenic three times a day

Electric light baths to assist in elimination are given three times a week or oftener according to the patient s condition I cannot place too much stress on elimination Morphin is found in the urine of addicts as late as nine days after the last dose has been taken and in the liver brain and kidneys as late as fourteen days During the reconstruction period, good food exercise, shower baths massage and some form of amusement assist in bringing the patient to a prime condition both mentally and physically both of which are necessary for an ideal result

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK 'NEW AND NONOFFICIAL REMEDIES"

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT, SO FAR AS KNOWN, IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL

W A PUCKNER SECRETARY

DIPHTHERIA IMMUNITY TEST (SCHICK TEST) — This test is intended to determine those persons who have not in their blood an amount of diphtheria antitoxin sufficient to render them immune to diphtheria The test depends on the phenomenon that when a small amount of diphtheria toxin is injected intradermally into a person who has no free antitoxin in his blood, a circumscribed area of redness and infiltration from 1 to 2 cm in diameter develops at the site of injection Should the patient have free antitoxin in his blood, no reaction occurs The reaction occurs in twenty-four to forty-eight hours, and is at its height in forty-eight to seventy-two hours It remains for six to twelve days, and is followed by slight scaling, and leaves a brownish, pigmented spot In some persons a pseudoreaction may occur, which may be differentiated by its earlier appearance and disappearance and the facts that it is less circumscribed and is not followed by pigmentation

The test is of special value for use in institutions and among groups of persons exposed to diphtheria, in order that it may be determined which individuals should be given an immunizing dose of diphtheria antitoxin It is also of value in the diagnosis of other conditions simulating diphtheric infections

Diphtheria toxin in dilute solutions, such as are necessary for the test soon loses in potency

H K. Mulford Co., Philadelphia

Diphtheria Toxin Standardized (Schick Test) —Marketed in sealed capillary tubes each containing a solution of one fiftieth of a minimal lethal dose for guinea pigs of diphtheria toxin, put up with a sterilized needle for intradermal injection.

TYPHOID VACCINE (see N N R, 1915, p 324) — Swan-Myers Co, Indianapolis, Ind.

Swan s Typhoid Bacterin (No 44) (Prophylactic) —Marketed in packages (hospital) of thirty six vials of which twelve contain each 500 million killed typhoid bacilli and twenty four contain each 1 000 million killed typhoid bacilli in packages (board of health) of seventy two vials of which twenty four contain each 500 million killed typhoid bacilli and forty-eight contain each 1 000 million killed typhoid bacilli

RADIO-REM, OUTFIT No 5 —An apparatus designed for the production of radioactive drinking water by the action of radium sulphate. It imparts about 3 6 microcurie (10 000 Mache units) to 500 Cc. water daily (The exact efficiency is stated and guaranteed at the time of sale)

Actions Uses and Dosage —See general article on radium, New and Nonofficial Remedies 1915 p 262

Radium Therapy Corporation New York (Schieffelin and Co New York) U S patents Nos 1 032 951 and 1 032 779 (July 16 1912 expire 1929) U S trademark No 99 507

Radio Rem Outfit No 5 consists of two wide mouthed glass stoppered bottles of about 250 Cc. capacity each containing a fired porous clay (terra cotta) plate stated to contain radium sulphate While each plate is designed to impart about 1 8 microcurie (5 000 Mache units) to the water which fills the bottle in twenty four hours the efficiency of each tablet is stated at the time of sale and the manufacturers agree to replace the tablets and to pay for the test if examination by the U S Bureau of Standards shows them to be deficien

A test made for the Council demonstrated that during the impregnation of the water with radium emanation no radium is dissolved in the water the radioactivity being due to the presence of the emanation

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

535 North Dearborn Street . Chicago, Ill

Cable Address "Medic, Chicago"

Subscription price . Five dollars per annum in advance

Contributors, subscribers and readers will find important information on the second advertising page following the reading matter

SATURDAY, JANUARY 15, 1916

THE MECHANISM FOR INCREASING THE NUMBER OF RED BLOOD CELLS

The number of red corpuscles circulating in a unit volume of blood adjusts itself to a variety of bodily and environmental factors As an illustration of the latter, the effect of a transition to a region of lowered atmospheric pressure may be cited When one goes to high altitudes, there is an increased blood count which may be immediate, and due to a concentration of the blood through diminution of its plasma or to a sudden discharge of sidetracked corpuscles into the blood stream, or there may be a slower and more gradual increment attributable to the activity of the hemopoietic organs and resulting in a more permanent and real increase in the total number of blood corpuscles of the body An instance of the influence of bodily factors on the blood count is exhibited in the alleged effects of massage and athletic exercise on the circulation [1]

There has been much speculation and not a little experimentation and observation directed to the discovery of the mechanism by which these changes and particularly the rapid adjustments, in the blood count, are brought about Lamson[2] has summarized the possibilities as follows If we consider the circulation to be a closed system, the number of red cells per unit volume of blood may be increased by (1) a decrease in plasma volume, (2) an actual increase in the number of red cells by new production of them or by division of old ones, (3) if the red cells are unequally distributed throughout the circulation, being packed away in certain regions in greater concentration than in the circulating blood, a stirring up of these, causing a more uniform distribution, will relatively increase the blood count, (4) a combination of any of these factors

Lamson has carefully investigated the possible contribution of the various hypothetic factors enumerated His studies at the Johns Hopkins Medical School emphasize anew the fact that the number of red cells per unit volume of blood is not so constant, under physiologic conditions, as is generally supposed Under such circumstances as changes in atmospheric pressure, exercise, and emotional states such as fright or anger, oscillations in the number of cells are continually taking place The object of this, Lamson believes, is to be found in the attempt of the body to maintain the oxygen content of the blood constant He concludes that there is a mechanism for the regulation of the red corpuscle content of the blood, under nervous control, and reacting to the lack of oxygen as a stimulus The suprarenal glands are believed by Lamson to play a dominant part in this mechanism, and the liver is the organ which supplies the body with red cells to meet its acute demands

It will be interesting to examine some of the evidence relating to this postulated regulatory mechanism Lamson has contrived various experimental devices which will produce a prompt increase in the blood count Some are entirely foreign to the body, and others include injections of chemical substances physiologically found Epinephrin, for example, produces a decided polycythemia This is due entirely to the contribution of the liver If the arterial circulation of this organ is temporarily occluded, the effect of epinephrin in bringing about the usual increase in the blood count fails, but as soon as the obstruction to the arterial blood supply of the liver is removed, the customary polycythemia ensues Inasmuch as the polycythemia produced by injection of epinephrin can be attained even after removal of the spleen, the entire intestine and its mesentery, the omentum and the pancreas, and it can be shown by other evidence that the bone marrow, muscles, lungs, kidneys and skin play no part in epinephrin polycythemia, the assumed rôle of the liver becomes the more probable In part the increase in blood count thus produced is due to red cells not previously present in the general circulation, for they are observed to be different in size and make-up from those present before its production Signs of new red cell formation, such as the presence of nucleated red cells, are absent Perhaps the phenomenon involves a splitting of red cells The liver also appears to have some ability to decrease the plasma volume after epinephrin injection

In Lamson's opinion respecting the mechanism by which the red count may be regulated, epinephrin is likely to be one of the most effective stimuli capable of increasing the red count All of the prominent physiologic and pathologic conditions which might call for an increase in the oxygen content of the blood can stimulate the suprarenal glands and cause an increased output of epinephrin Thus massage of the abdomen, a procedure known to increase the number of red cells, is believed to act by reflex stimulation of the suprarenals, rather than by an actual mechanical driving of corpuscles from the reservoirs in the abdomen Fright and other emotional states are known to stimulate discharge of suprarenal secretion They also induce polycythemia Evidence for the theory is found, further, in the absence of polycythemia after fright, asphyxia and other conditions in animals in which the suprarenals have been removed, and also by the fact that the removal of the suprarenals completely upsets the control of the red count in a few hours

---

[1] Exercise and the Blood, editorial, The Journal A M A, May 1, 1915, p 1501

[2] Lamson, P D The Rôle of the Liver in Acute Polycythemia A Mechanism for the Regulation of the Red Corpuscle Content of the Blood, Jour Pharmacol and Exper Therap, 1915, vii, 169

Theoretically, says Lamson, a mechanism operating by any decrease below the normal oxygen content of the blood, stimulating the splanchnic nerves and acting on the suprarenal glands causing an increased output of epinephrin, and a direct action of this substance on the liver, and thus increasing the red cells, is possible The blood after obtaining the necessary content of oxygen would then cease to stimulate the suprarenals, the epinephrin output would fall, and consequently the stimulation of the liver would cease, and the count would then decrease until the oxygen content became sufficiently low again to cause suprarenal stimulation, and an increase in the number of red cells Furthermore, on the hypothesis here advanced, the body would not necessarily need to wait until the oxygen content of the blood is below normal before responding by an increase in the number of red cells The outpouring of suprarenal secretion as a result of the major emotions might lead to a preparation for eventualities even before there is any asphyxia or actual lack of oxygen This would be in harmony with the rôle of the suprarenals in relation to the mobilization of blood sugar for muscular emergencies, as it has been suggested by Cannon and his collaborators[3]

MIXED ANTITYPHOID AND ANTIPARATYPHOID INOCULATION

Assuming the prophylactic value of inoculation with a killed culture (vaccine) of *Bacillus typhosus* against typhoid fever, the propriety and feasibility of using, instead of the typhoid vaccine alone, a mixed vaccine containing the specific organisms of the two closely allied diseases, paratyphoid A and paratyphoid B, naturally follow The intent, of course, is to protect an individual by one series of inoculations against all three diseases The clinical type of disease produced by these three organisms is so similar as hardly to permit differentiation at the bedside The causal micro-organisms, however closely allied, are nevertheless severally specific, and possess definite differentiating characteristics Each stimulates the production of its own peculiar antibodies, and an immunity acquired or produced against one does not protect against the others These biologic principles seem well established They accord with clinical experience and harmonize with laboratory data

The idea of using a combined vaccine is quite natural, and the suggestion, while more or less recent, is yet old enough to have accumulated a literature comprising several titles Apparently it has attracted little attention in this country despite the work done here with antityphoid inoculation The prevalence of both paratyphoid A and paratyphoid B infections in parts of the European war zone has reawakened considerable interest in the subject, and the advisability and feasibility of the procedure have been the subject of some discussion in the foreign medical press Paratyphoid infections, at least paratyphoid A infections, are sufficiently common to render this question worthy of our serious consideration If, other things being equal, we can by one and the same procedure protect an individual against three serious infections, it would seem the part of wisdom to do so The matter, however, is hardly so simple as all this The principles that underlie the use of killed micro-organisms, both in therapy and in prophylaxis, and the most effective methods of applying them, are not as yet fully understood The body's defenses against disease are anything but simple, on the contrary, they are usually multiple and complex It has been pointed out by thoughtful men that the introduction into the human body, by the parenteral route, of any foreign protein, however small the quantity, is not a matter to be undertaken too lightly It sets in motion complex chemical reactions, the ultimate effects of which we can but dimly appreciate And the careful scientist, well aware that he is treading a hazy way, looks somewhat askance at mixed vaccines of whatever kind or purpose Nevertheless, so far as concerns our present comprehension of these matters, the use of the mixed vaccine suggested seems entirely reasonable Admitting, then, the need of such protection (and this is quite evident with regard to typhoid and paratyphoid A infections), would it be advisable to adopt the use of a mixed vaccine?

Of course, several questions immediately suggest themselves Is there any evidence of the practicability of the procedure, of its harmlessness, of the degree of protection afforded against the several diseases? What is to be the dosage employed? How much reaction is to be expected from this dosage? These pertinent queries may be answered with at least some degree of satisfaction

Kabeshima,[1] basing his work on animal experimentation, put into practice in the Japanese navy the use of a mixed vaccine This was prepared of equal numbers of the three bacteria in question, but the dose given did not exceed in total numbers the dose given of the typhoid vaccine alone The reactions observed, both local and general, do not seem by this method to have been severe, and were quite comparable to what occurs in the administration of the typhoid vaccine alone Much care was taken, however, and the inoculated were kept at rest for a short period Use was first made of separate vaccines, successively given, and later resort was made to the combination From 1908 to 1911, in the Japanese navy, among a force of about 45,000 men, there were inoculated, by these methods, 28,343 men against typhoid, 18,834 against paratyphoid A and 11 884 against paratyphoid B From 1909 to 1911 there were observed in Japanese naval hospitals 367 cases of typhoid, of which 68 were among inoculated persons, with 5 deaths, and 299 among uninoculated persons, with 40 deaths, 289 cases of paratyphoid A, of which 71 were among inoculated persons, with 2 deaths, and 218 among uninoculated persons with 5 deaths, and 447 cases of paratyphoid B, all among uninoculated persons, with no deaths

---

[3] Cannon W B Bodily Changes in the Emotions of Fear Pain Hunger and Rage New York, 1915 The Emotions and Alimentation Current Comment THE JOURNAL A M A Feb. 27, 1915 p. 749

[1] Kabeshima Centralbl f Bakteriol Part 1 Orig 1914 lxxii 294

Vincent[2] states that in an experience of about 4,000 inoculations with a mixed vaccine, the results have been good and the immunity is as high for paratyphoid as for typhoid He says that the same results have been established in the Italian army He suggests that it is just as reasonable to vaccinate simultaneously against typhoid and the paratyphoid fevers as against typhoid and smallpox, which is commonly done

Widal,[3] after a review of the subject, speaks favorably of his own experience with a mixed vaccine, but is cautious in the expression of his opinions Chantemesse[4] is of a similar opinion Since the paratyphoid fevers are less frequent and more benign than typhoid, he suggests a mixed vaccine containing 50 per cent of *Bacillus typhosus,* 30 per cent of *Bacillus paratyphosus* A and 20 per cent of *Bacillus paratyphosus* B, avoiding in this way the objection of possible severe reactions to be expected if the full dose of all three is administered

If careful consideration is given to the opinions expressed in the rather meager literature, and to the broader view of the entire question, attention is focused on certain salient points which are determinative in character In the first place, the prophylactic value of the typhoid vaccine, despite a protesting minority, is very generally admitted and endorsed The prevalence of the paratyphoid infections, especially paratyphoid A, is by no means restricted, and in all likelihood they are more widespread than is appreciated Their differentiation is dependent entirely on the laboratory, which is not so generally available, and in its absence the paratyphoid fevers often go diagnosed, doubtless, as typhoid

It seems evident both on theoretical and on practical grounds that just as good immunity may be produced by vaccination against the paratyphoid infections as against typhoid, either by successive vaccinations with the corresponding micro-organisms, or by the mixed vaccine Moreover, the observations of several[5] support the view that successive vaccinations with the different organisms will not produce so satisfactory immunity as will the combined method, especially with regard to those last injected, unless there intervenes a considerable time interval between the various vaccinations And this seems to be unaffected by the order in which they are given

The dosage of the mixed vaccine does not appear yet to be satisfactorily determined The desire, of course, is to give the full dosage of each, but when combined, the resulting number to be injected forms a very large dose As noted, several methods have been used and others suggested This practical point remains to be determined with more exactitude in order to avoid serious or dangerous reactions Perhaps smaller doses with a greater number of repetitions might achieve the desired result In any event, very severe reactions must be in some way avoided

Of course, one must realize that there are limitations to all things, and vaccinations of this character must not be allowed to run riot, which is a danger more real than imaginary Neither vaccination nor any other procedure should be carried to extremes Reason and judgment, however, at present would seem to approve the idea of using a mixed vaccine for the typhoid and paratyphoid infections, and it especially commends itself to us here in the United States, where so much good work has been done with the typhoid vaccine If a practical method of using this mixed vaccine can be devised, it seems to promise results worthy of our effort

AN ANCIENT NARCOTIC

Among the menaces, aside from liquor and disease, to which some of the American Indians are said to be exposed at the present time, is the use of a natural product variously known as mescal buttons, peyote or pellote This consists of parts of a succulent spineless cactus, shaped like a carrot with a hemispheric head When they are chewed and swallowed, or used in the form of a tea-like decoction, a peculiar form of intoxication or seminarcosis is brought about The use of these plant products has become a part of certain ceremonials among some of the Indians They attribute divine powers to the drugs contained in the peyote, and the ceremony attending its use is of the nature of a religious rite in which many of the tribes of the southern plains take part Diguet[6] has described the manner in which some of the Indians of the northern regions of Mexico eat the plant and induce the hallucinations which are a part of its effect They chew the pulp, which has been cut into small pieces, and speedily spit out the saliva, which at first dissolves a bitter substance Then they swallow subsequent portions, from which the active principle is dissolved little by little and absorbed The almost miraculous properties, resembling the behavior of hashish or Indian hemp, make the plant appear to the Indians as a food for the soul, through the use of which they can communicate in their hallucinations with the gods The drug is said to ward off the feeling of fatigue, and its use is greatly varied[7]

---

[2] Vincent Bull de l'Acad de med, 1915, lxxiv, 33, 194

[3] Widal Bull de l'Acad de med, 1915, lxxiv 32 148 216

[4] Chantemesse Bull de l'Acad de med, 1915, lxxiv, 35, 229

[5] Drever, Georges Walker, E W A, and Gibson, A G Lancet London Feb 13, 1915, p 324

[6] Diguet L. La Sierra du Nayarit et ses indigenes, Nouvelles arch missions sc, 1899, ix, 622

As might be expected in the case of a substance of such unique narcotic properties, its use has tended to spread far beyond the southern tribes which first collected the plant The parcel post has begun to be a factor in distribution, and agents of the United States government have traced shipments in this way from Texas to the Menominee Indian Reservation in Wisconsin

So far as is known, no therapeutic or remedial value of the plant used, *Lophophora,* has been demonstrated Its chemical and toxicologic properties have been somewhat investigated, and a number of alkaloid-like and resinous compounds have been isolated from it[8] The accounts of the effects differ considerably, but agree in the statement that the drugs produce beautiful color visions The pupils become dilated Depression of the muscular system, and partial loss of tactile and other senses has been described Some of the isolated alkaloids, described under the names mescalin, anhalonidin, anhalonin, etc, by Lewin and Heffter produce comparable effects

According to Safford[9] of the Bureau of Plant Industry, this "mescal button" of Texas is identical with what was known as the teonanacatl or "sacred mushroom" by the Aztecs Like the Indians of the present day, these tribes of centuries ago obtained their supply of the narcotic drug through the medium of messengers, who observed certain rites in collecting it and who were received with ceremonial on their return The mails now serve as the messenger to the Indians of our northern reservations, yet these people attribute to the drug the same divine properties as did the ancient Mexicans, and they combine its worship with the religion they have received from Christian missionaries That a narcotic cactus should have been mistaken by the early Spaniards in Mexico for a mushroom is not regarded as surprising by Safford, because of the remarkable resemblance of the dried "buttons" to peltate fungi The knowledge of botany among the Aztecs furnished no distinction between a flowering plant and a fungus so long as they looked alike

THE ACTION OF COCAIN

Aside from its action as a local anesthetic, and its stimulating and then depressing action on various parts of the central nervous system, cocain has three effects which have especially aroused the interest of clinicians and pharmacologists These are the dilation of the pupil, the local constriction of certain blood vessels, and the acceleration of the heart sometimes seen in cases of poisoning by this drug The first two are of very practical importance Cocain is in constant use as a mydriatic, and extensive use is also made of its constricting action on the dilated vessels of the conjunctiva, etc Its advantages as a local anesthetic over its more recent rivals are in part attributed to its local vasoconstricting effect Since the introduction of mixtures of novocain, etc, and epinephrin, however, this inherent advantage of cocain has become of less importance, the epinephrin adds to these mixtures an important action not possessed by the anesthetics alone

There has been much discussion as to just how cocain brings about dilatation of the pupil and the local constriction of blood vessels For many years the view has been current that it stimulates the endings of the sympathetic nerves in the iris This view was based chiefly on the observation that after these nerves were cut and allowed to degenerate, cocain had a much less dilating effect on the pupil, or none at all This explanation has never been entirely satisfactory, all writers have had to admit that it does not explain all the observed facts It has been accepted, however, as the more plausible explanation for the major part of the facts, and recent writers seem to have been little disturbed by the facts which it does not explain The other actions, the vasoconstricting and the acceleration of the heart, have not been the subject of much investigation, but there has been a tendency to explain them also as a result of an increased activity of sympathetic nerve endings[1] In fact, cocain is now frequently grouped with epinephrin as a drug having a selective stimulating action on the endings of the true sympathetic nervous system[2]

It appears, however, from recent work carried out by Kuroda,[3] in the pharmacologic laboratory of Professor Cushny of London, that such a generalization was premature and not sufficiently well supported by experimental facts Kuroda showed that the action of cocain differs widely from that of epinephrin or sympathetic nerve stimulation thus it dilates the vessels when perfused through an organ, whereas epinephrin or sympathetic nerve stimulation causes an intense constriction, it depresses the action of the isolated heart, whereas sympathetic nerve stimulation or epinephrin powerfully stimulates this organ, small doses of cocain augment the activity of the intestine, and large doses depress it, whereas with epinephrin or sympathetic nerve stimulation there is only a depression There is a similar lack of correspondence between the action of cocain and of epinephrin or sympathetic nerve stimulation in the case of the stomach, uterus, bladder and salivary glands In nearly all cases cocain was found first to increase the activity of unstriated muscle and then to depress it, whatever may be the nature of the sympathetic control, in some instances the phase of increased activity was not observed In view of these results and the fact that the explanation that the dilatation of the pupil results from a stimulation of the endings of the sympathetic nerve has always been regarded as inadequate, Kuroda argues that the dilatation of the pupil under cocain also arises from a direct depressing action of the drug on the muscle of the iris The vasoconstricting action of cocain which is seen when the drug is applied directly to a congested mucous membrane is not so readily explained, but it is evidently of a different character from that caused by epinephrin or sympathetic nerve stimulation, the effects of the latter agencies are very evident in isolated organs, and are always readily obtained, whereas cocain causes a dilation of blood vessels under similar conditions The acceleration of the heart in the intact animal is evidently not due to a direct action of the drug on the cardiac muscle or on the sympathetic nerve endings, and so is not analogous to the action of epinephrin, it may be due to an action on the central nervous system

---

[7] Mooney J The Mescal Plant and Ceremony Therap Gaz 1896 xx 7

[8] Lewin L. Arch f exper Path. u Pharmacol 1888 xxiv 401 1894 xxxiv 374 Heffter A. Ibid 1894 xxxiv 65 1898 xl 384 Dixon W E. Jour Physiol 1899, xxv 19 Prentiss D W and Morgan F P Therap Gaz 1895 xix 579 Ewell E. E. Jour Am Chem Soc. 1896 xviii 624 Mitchell S W and Eshner Brit Med Jour Dec. 5 1896 p 1625 Ellis Lancet, London June 5 1897 p 1540 The plant is sometimes described as Anhalonium lewinii

[9] Safford W E. An Aztec Narcotic (Lophophora Williamsii) Jour Heredity 1915 vi 311

[1] Meyer H H and Gottlieb R Pharmacology Clinical and Experimental p 158

[2] See, for example, Wolfsohn J M The Normal and Pathologic Physiology of the Visceral Nervous System The Journal A M A May 16 1914 p 1535

[3] Kuroda Jour Pharmacol and Exper Therap 1915 vii 423

At first thought it may seem rather discouraging that there should still be so much doubt as to the true action of such a widely used mydriatic as cocain, but it should be remembered that such problems are very complex and that the number of men seriously working to elucidate them are few

FURTHER FACTS ABOUT PLASMAPHAERESIS

Some time ago The Journal explained[1] the term "plasmaphaeresis," which was introduced into medical literature to describe a mode of plasma removal, from the circulating blood, as devised by investigators at the Johns Hopkins Medical School The underlying idea was to institute repeated removals of considerable quantities of blood, separate the corpuscles by vigorous centrifugalization, replace the plasma by Locke's solution, and reinject this together with the sedimented blood cells A procedure of this sort gave promise of removing large quantities of the circulating fluids of the body and accomplishing many of the underlying aims of venesection without the serious danger which is promptly caused by greatly reducing the oxygen-carrying capacity of the blood represented in the blood corpuscles It seemed possible, in view of the evident survival of the reinjected erythrocytes, to attain the desired benefits of venesection, particularly in some types of toxemia, without introducing attendant harmful consequences which have been responsible for the abandonment of bloodletting in all but few cases

There are many details of a method so promising and yet so serious in its physiologic aspects which deserve and demand to be investigated before the clinician would be justified in considering any applications to human therapy Some of these have been supplied in more recent studies at Baltimore by Turner, Marshall and Lamson[2] These show that the maximum total amount of blood which can be removed by plasmaphaeresis may be considerably greater than was reported earlier[1] As much as five times the original volume of blood has been withdrawn in the course of five days by repeated bleedings and return of the corpuscles The danger of collapse appears to be greatest when the bleeding is very rapid The blood pressure is progressively lowered in plasmaphaeresis Warning of danger may be obtained by watching this carefully, and the possibility of collapse from overbleeding thereby averted

One of the first effects of plasma removal by the method of the Baltimore school is uniformly to raise the count of the blood corpuscles The rise in number may occur even during withdrawal of the blood, and the effect is increased in some degree by the return of the corpuscles abstracted In spite of the periodic increments caused by successive operations of plasmaphaeresis, the cumulative effect soon gives place to a slight downward tendency No evidence of acute destruction of the red corpuscles reinjected has been seen at any time The change in the number of leukocytes shows, as might be expected, a very different picture from that of the red cells With few exceptions, the effect of plasma removal is to reduce the number of white corpuscles considerably This, the investigators remind us, is possibly due to the fact that, being harder to separate from the plasma in the centrifuge, many are lost A slight rise in temperature has been observed during each day of plasmaphaeresis, with a return to normal at night This may be due to the saline injections alone, since they have been observed to produce slight febrile reactions

One result of this mode of "washing out" the vascular system with saline solution, while leaving the corpuscles intact, is the lowering of the protein content of the plasma in every case, as might be expected The quantitative results, however, are not precisely such as would be obtained by washing out an inanimate system containing the same volume of blood There is a speedy partial restoration of protein into the diluted

---

[1] Plasma Removal—Plasmaphaeresis, editorial, The Journal A M A, Feb 6, 1915, p 514

[2] Turner, B B Marshall E K, Jr, and Lamson, P D Observations on Plasmaphaeresis, Second Paper, Jour Pharmacol and Exper Therap, 1915, vii, 129

every such instance carefully investigated, the pneumococcus isolated has corresponded in type with that of the infected individual Convalescents from pneumonia carry for a considerable length of time the type of pneumococcus with which they have been infected The investigations of Dochez and Avery thus show that there are two sources of danger in the spread of the pneumococcus infection One lies, as they point out, in the occurrence of healthy carriers of disease-producing pneumococci among individuals associated with cases of pneumonia The other source is indicated in the fact that patients recovering from the disease harbor the responsible organism for a considerable length of time Under such circumstances it is not easy to trace a given case to the carrier responsible for it The sporadic occurrence of lobar pneumonia is explained by the same features that have made it difficult to establish a well-defined epidemiology of the disease The recognition of the nature of the carriers that may exist marks an important step in the direction of progress

THE SHERLEY AMENDMENT IS CONSTITUTIONAL

A few weeks ago[1] The Journal described the attempt on the part of the exploiters of "Eckman's Alterative," a fraudulent "consumption cure," to cripple the Food and Drugs Act by attacking the constitutionality of the Sherley Amendment This amendment declares that a drug product shall be deemed misbranded if false and fraudulent therapeutic claims are made for it The Eckman concern, which was found guilty of making false and fraudulent curative claims, carried the matter up to the Supreme Court of the United States attacking the constitutionality of the Sherley Amendment Last Monday (January 10) Justice Hughes delivered an opinion for the court, every member of the Supreme Court having agreed to it "We find no ground," Justice Hughes is reported as stating, "for saying that Congress may not condemn interstate transportation of swindling preparations accompanied by false and fraudulent statements, as well as lottery tickets" The decision is one that means much to the health and safety of the public and will have the unqualified approval of all except the "patent medicine" fakers and their satellites

THE DETECTION OF MALARIAL PLASMODIA

A method for obtaining malarial plasmodia in blood for diagnostic and other purposes, which was devised several years ago by Bass and Johns, has recently been described in detail by these investigators[2] It involves the concentration of the "crescents" by their stratification into a distinct layer when blood containing them is centrifuged at a high speed The fundamental principles involved are the fact that a malaria plasmodium with its host erythrocyte is larger than the nonparasitized erythrocytes, and that when centrifuged at proper speed for a sufficient length of time, the larger cells rise to the top of the cell column, while the smaller cells collect beneath Most of the leukocytes are still larger than most of the parasitized cells, and accordingly rise to a higher level in the cell column or even to the surface In a sufficiently centrifuged tube the successive layers thus include nonparasitized erythrocytes, parasitized red cells, leukocytes and serum If citrated blood is used, platelets may be suspended in the plasma Helpful newer details respecting this ingenious procedure, by which almost innumerable plasmodia may sometimes be brought into a single microscopic field, may be consulted in the original paper The method has an added usefulness in that it offers the possibility of obtaining large quantities of plasmodia for experimental purposes either directly from the the blood stream or from cultures in vitro

Medical News

(Physicians will confer a favor by sending for this department items of news of more or less general interest, such as relate to society activities, new hospitals, education, public health, etc.)

ILLINOIS

Ask Sanitary Surveys—The mayors and health officers of Champaign and Urbana have requested the bureau of sanitary engineers of the State Board of Health to make a sanitary survey of these cities——Jacksonville has also asked for a sanitary survey

Personal—Drs Ora L Pelton, Ora L Pelton, Jr, and Samuel L Gabby, Elgin, are arranging for a third story to be added to the new Rittberger Building which will be used for their offices, laboratory and a small hospital——Dr William J Riley, Jr, has been appointed an assistant physician on the staff of the Elgin State Hospital——Dr William J Uppendahl, Peoria, who has been attached to the British Hospital Service in Europe for six months, now writes that he will remain in the war zone for a second six months——Dr Victor A Bles of the staff of the Elgin State Hospital, who has been seriously ill, is reported to be improving

Chicago

Bids for Hospital Addition—Bids were opened January 3 for the County Hospital addition consisting of the finishment of basement, refrigerator plants, modern kitchen and bakery and a complete tunnel system The lowest bid was $527,000

Study of Tuberculosis—The Robert Koch Society for the Study of Tuberculosis, affiliated with the Chicago Tuberculosis Institute, will hold its seventeenth meeting at the Morrison Hotel, January 19 at 12 noon Dr Harry J Corper of the Municipal Tuberculosis Sanatorium will read a paper on "Complement Fixation in Tuberculosis" and the discussion will be opened by Dr Ludvig Hektoen

Personal—Drs James M Neff and Philip S Chancellor, members of the Chicago unit, have been commended in general orders by General Sir John French for "superlative service" with the American Hospital Units in France——Dr William A Evans, who was operated on for disease of the gallbladder, January 4, is reported to be making satisfactory progress toward recovery——Dr Arthur D Black has accepted an invitation of the University of California to give a course of lectures during January in that institution——Dr Coleman G Buford delivered an address before the Galesburg Medical Society, January 4, on "The Goiter Question"

Gorgas in Chicago—Major-General William C. Gorgas, Surgeon-General, U S Army, spent a busy six days in Chicago and whether it was a continuous round of pleasure or not, there is no question as to the continuity of the entertainment In addition to luncheons, dinners and it may be breakfasts, at which he was the guest of honor each day during his stay in Chicago, General Gorgas appeared before the Geographic Society of Chicago on January 7 and had presented to him the society's gold medal on account of his work in transforming living conditions in the Panama Canal Zone and making it habitable for white men Mr Henry J Patten, president of the society, was toastmaster, Dr Frank Billings made the presentation address and General Gorgas spoke on "Sanitation in Its Relation to Geography" On January 10 he was the guest of honor at a banquet given under the auspices of the Chicago Single Tax Club and nine other medical and lay organizations of the city On this occasion Dr John B Murphy presided and General Gorgas spoke on "Sanitation and Single Tax," stating his belief that single tax by taxing land values will bring unoccupied land into use and thereby relieve congestion in cities and increase wages He also spoke entertainingly on the sanitary problems in Havana and in the Canal Zone, narrating the way in which they had been met and disease conquered He was entertained at luncheon by the City Club on the afternoon of January 10, and on January 11 he was the guest of honor at a dinner given at the Quadrangle Club of the University of Chicago at which he spoke on 'Sanitation in Relation to Poverty' General Gorgas returned to Washington on January 12

---

[1] Attempting to Cripple the Food and Drugs Act, editorial, The Journal A M A, Nov 20, 1915, p 1822

[2] Bass, C C, and Johns, F M A Method of Concentrating Malaria Plasmodia for Diagnostic and Other Purposes, Am Jour Trop Dis, 1915, iii, 298

KANSAS

Food and Drugs Inspections—According to the December *Bulletin* of the Kansas State Board of Health during October and November, 1915, the inspectors of the department made 1 984 inspections covering all classes of food and drug establishments Of 359 food products inspected 181 were classed as passed and 78 as illegal Of 73 drug products examined, 58 were passed and 15 were illegal

Personal—Dr Lucullus R Sellers, who has been connected with the State Hospital at Larned for twelve years and who resigned to take effect January 1, has been prevailed to withhold his resignation until the first of March ——The office of Drs Charles R. Silverthorne, Maplehill, was burned December 12——Dr John P Kaster, Topeka, has been appointed a member of the National Board of First Aid Standardization

State Hospital Association Organized—The hospitals of Kansas have organized a state association which held its first meeting December 30 at Topeka when a constitution and by-laws were adopted and the following officers were elected president, Dr John T Axtell Newton, vice presidents Drs Samuel Murdock, Jr., Sabetha, John C Hall, McPherson, and Frank W Shelton Independence and secretary-treasurer, Dr William R Dillingham, Halstead This association will be affiliated with the American Hospital Association

MARYLAND

Doctor Held Under Drug Act.—Dr Hugh M Boring Baltimore, was held in $1 000 bail for a hearing on January 14 on the charge of violating the Harrison Narcotic Law by furnishing prescriptions for opium and other drugs without putting on them the correct names and addresses of the persons for whom they were intended It is alleged that Dr Boring sold the prescriptions indiscriminately

Personal—Dr William H Welch of the Johns Hopkins University arrived in Baltimore on January 5, after a six month s trip to the Orient.——Dr Karl H Van Norman formerly of the Johns Hopkins Hospital and now a captain in the Royal Canadian Army Medical Corps is in charge of of a British hospital division at Ramsgate, England The hospital at Ramsgate has 600 beds and Dr Van Norman has medical supervision of over 125 patients all war victims ——Dr C. Reid Edwards has been appointed superintendent and Dr Louis A Boic, resident surgeon of the Kernan Home for Crippled Children——Dr Charles A Overman, Baltimore who has been ill at the University Hospital for five months, is reported to be convalescent.

Changes in the Staff at the Hopkins.—Two important changes in the hospital staff have been announced at the Johns Hopkins Hospital The resignation of Dr Leonard G Rowntree associate professor of medicine, was accepted and the appointment of Dr Lysander P Holmes of the health department of New York City as third assistant superintendent was given out Dr Rowntree has been appointed professor of medicine at the University of Minnesota The appointment of Dr Holmes is to fill the vacancy which was caused by the resignation of Dr Karl H Van Norman first assistant superintendent, about two months ago Dr Ralph B Seem, Baltimore second assistant, was promoted to Dr Van Norman's place and Dr Lewis A Sexton, third assistant was put in Dr Seem's position Dr Holmes comes from the Riverside Hospital, which is operated by the New York Health Department.

MICHIGAN

Red Cross Must Not Be Used—The National Red Cross has lodged a complaint with the attorney-general that fifty-seven physicians of Saginaw are violating the federal law by using the Red Cross emblem on their motor cars——Physicians of Muskegon are changing the Red Cross on their motor cars to a green emblem of similar design

Personal—Dr Alfred H Boon, Painesdale, has resigned from the Copper Range medical staff and left on January 6 to join the Royal Army Medical Corps——Dr John C Brown, Battle Creek, has declined reappointment to the state advisory board of pardons——Dr Ralph C. Apted, Grand Rapids recently underwent further operation in Augustana Hospital, Chicago, and is said to be doing well ——Dr David L Trear has resigned as president of the National Bank of Commerce of Adrian to accept a position as head of the welfare work among the employees of the General Motor Company, Flint.

MINNESOTA

First Students for Mayo Foundation—The first delegation of students to go to the Mayo Hospital, Rochester, under the Mayo Foundation plan, will leave the University of Minnesota, April 1

State Board Appointments—Drs David N Jones, Minneapolis, and Werner Hemstead, Brainerd, have been appointed members of the State Board of Health, to succeed Drs Frank Burton, Minneapolis, and Olaf J Hagen, Moorhead, and L P Wolf, St Paul, has been reappointed a member of the board

New Officers—Olmsted County Medical Society has elected Dr Walter D Shelden, president, Dr William C MacCarty vice president and Dr Henry W Meyerding secretary-treasurer, all of Rochester——Hennepin County Medical Association, at Minneapolis, January 3 president Dr John G Cross, and vice presidents, Drs Arthur S Hamilton and Fred L Adair——Red River Valley Medical Association, at Crookston December 16 president Dr Wilhelm S Anderson Warren, vice president, Dr J Frank Norman Crookston and secretary-treasurer, Dr Franklin M Dryden, Crookston

Personal.—Dr Kenneth Taylor, St Paul, has returned after work of more than a year in the American Ambulance Hospital and the hospital of Dr Blake at Ris Orangis——Dr Sheridan G Cobb Merriam Park St. Paul, who underwent operation for appendicitis January 1 is reported to be doing well——Dr Arthur J Dohm, St Paul fractured his right forearm while cranking his automobile, December 25 ——Dr Adrien J Kirghis St Cloud, who while visiting France was pressed into the army service, returned from France, December 17——Dr Carl A. Scherer of the University of Minnesota has resigned and will move to Fargo N D where he will specialize in diseases of children——Drs George E. Sutton and Zerah P King Minneapolis have started for Europe where they will serve in the American Ambulance Hospital at Neuilly France——Dr Charles A Hobbs Minneapolis deputy coroner of Hennepin County is ill with scarlet fever in the contagious ward of the City Hospital——Dr Rudolph A Beise Brainerd, was operated on recently at Rochester for gastric ulcer and is reported to be doing well——Dr James S Gilfillan St. Paul was operated on for appendicitis recently——Dr Fred C. Eakins Rochester, has left for Winnipeg for overseas medical service

MISSOURI

Hygienist School to Open—A school for hygienists will be opened in Kansas City this month at which two classes of students will be received those wishing certificates of proficiency to be issued by the Hospital and Health Board after regular examinations and those who attend only to obtain personal information

School Inspectors—Special commissions as medical inspectors of schools have been issued to forty-six physicians of Kansas City who will perform this service without pay About thirty dentists will also be appointed for this work.

ing with such subjects as personal health, food, and care of children Wednesdays at 4 p m, beginning January 12 "First Aid" Twelve lectures and demonstrations, Mondays at 4 p m, beginning January 10

Rush Society Lecture—The thirteenth Rush Society lecture will be delivered at the College of Physicians and Surgeons, Twenty-Second and Chestnut streets, January 21, at 8 30 p m, by Dr Frederick M Allen of the Rockefeller Institute for Medical Research on "Investigative and Scientific Phases of the Diabetic Question with Their Probable Relations to Practicable Problems of Clinical Medicine"

Department Physicians Selected—January 7, Dr Wilmer Krusen, the new director of health and charities, confirmed the appointments of physicians in the department, made by his predecessor, Dr S Lewis Ziegler These consisted of Dr William P Hearn as visiting chief on the surgical staff of the Philadelphia General Hospital, and Dr Robert Goodman, Dr Jacob E Ellinger and Dr Maximilian E Smukler, assistant school medical inspectors

Thanks for Donation of Instruments—The roster of the County Medical Society contains a notice of thanks from the committee for the collection of surgical instruments for the small French hospitals which has met with such generosity on the part of the profession in Philadelphia and the surrounding states The committee, through its spokesmen, Drs Joseph Leidy, William W Keen and J William White, will be glad to receive further contributions, being in constant touch with these hospitals where the demand still greatly exceeds the supply

Personal—Dr Edward B Gleason was sworn in as president of Common Council of the city on January 3——Dr Charles B Penrose, who has been ill with pneumonia at the Johns Hopkins Hospital, Baltimore, returned to his home January 5——Dr Santos Fernandos, Havana, president of the Academy of Science of Cuba, addressed the Ophthalmic Society of the Wills Eye Hospital, January 4——Dr Richard H Harte, former director of health and charities, sailed from New York, January 8, his destination being the American Ambulance Hospital at Paris, where he will serve until April at least——A tablet has been placed in the Church of St Luke and the Epiphany in memory of Dr Charles Lester Leonard, among the first men in this city to experiment with Roentgen rays, and an early victim

WEST VIRGINIA

West Virginia Medical Journal Adopts New Policy—The *West Virginia Medical Journal*, the official organ of the West Virginia State Medical Association, with the issue of January, 1916, comes under the management of a new editor who states that "there are some changes in the policy of our journal which it has now become necessary to make No advertisements of pharmaceutical products should be printed which do not conform to the standards of the Council on Pharmacy and Chemistry of the American Medical Association In order to adopt this standard and bring the *West Virginia Medical Journal* into harmony with the journals of other state medical associations (with one exception, we believe) we have entered into an agreement with the Cooperative Medical Advertising Bureau which is conducted under the auspices of the American Medical Association at Chicago, to advertise only those products which are approved by the Council To do this, it has been necessary to cancel quite a number of contracts, which have been excellent paying ones However, it is the determination of your editor, during his term of service to the state association, to 'hew strictly to the line' in advertising policy"

CANADA

Local Examiners for Recruits—Instructions have been sent to all recruiting centers in Canada from the militia department at Ottawa that the services of local doctors be secured to examine recruits instead of depending on the services of one doctor for a whole recruiting district These doctors will be appointed on the recommendation of the minister of militia

Medical Pension Board in Montreal District—Announcement is made of the appointment of a medical board for the fourth military district Dr J Alexander Hutchinson, Montreal, has been appointed chairman of the board He will have the temporary rank of lieutenant-colonel His associates will be Maj G [illegible] Shaw, St Andrews, Que, and Dr Edmond M von Eberts, Montreal

Free Serum—The Ontario Board of Health announces that on and after February 1, the public will be supplied free of charge through local boards of health and medical officers of health with various biologic products Hospitals and physicians will be supplied direct only when they cannot obtain the serums from the local officers of health Physicians are requested to cooperate by early reporting of all cases of communicable diseases

Health Administration of Toronto—Ten years ago the city of Toronto spent $60,000 annually on its health administration Last year it spent over *$309,000*, but the medical officer of health has always given good value for the money and contends that a municipality can have just as much health as it is willing to pay for Toronto spends annually as well about $75,000 on the medical inspection of public schoolchildren It has long been considered that there has been overlapping in the matter of inspection in regard to infectious and contagious diseases The latter is not under the department of health but is controlled by the board of education Toronto's municipal expert considers that much money could be saved the taxpayer if the medical inspection of schools was placed under the department of health The city has had a considerable epidemic of measles, there having been 2,000 to 3,000 cases Some people are asking what is medical inspection for, if there is to occur an epidemic of such widespread distribution and extent?

GENERAL

Interstate Society Organized—The physicians of Snake River Valley have organized a medical society to be known as the Idaho-Oregon Medical Society Dr Rollo O Payne was elected president, and Dr William J Weese, secretary, both of Ontario, Ore

Guarding Against Typhus—Surgeon-General Rupert Blue, U S P H S, is taking great precautions against the introduction of typhus fever through the Mexican boarder Senior Surg Claude C Pierce has been ordered from San Francisco to Laredo, Tex, where a quarantine against typhus has been established

Decrease in Medical Books—The annual report of the committee on library of the New York Academy of Medicine, issued January 1, shows a great decrease in the average of medical books published in Europe during 1915 During 1913 the academy received 704 French and German publications but during 1915 only 435

Western Surgeons Meet.—At the annual meeting of the Western Surgical Association at Davenport, Ia, Dr Lawrence W Littig, Davenport, Ia, was elected president, Drs Arnold Schwyzer, St Paul, and Henry H Sherk, Pasadena, Calif, were made vice presidents, and Dr Arthur T Mann, Minneapolis, was elected secretary-treasurer

Rabies in the West.—Representatives of the California Board of Health, the United States Forest Service in Oregon, Nevada and California, the United States Biological Survey, the governor of Nevada, the secretaries of the State Board of Health of Oregon and Nevada, and cattlemen of Oregon, Nevada and California, met in San Francisco, December 20, to discuss plans to stamp out rabies in the coast states

Honor to Botanist.—Dr T J Burrill, professor emeritus of botany at the University of Illinois, Champaign-Urbana, was installed as president of the American Society of Bacteriology at the closing session of the convention, December 23 Dr Burrill was also further honored in resolutions congratulating him on his pear-blight investigations which have resulted in the creation of plant pathology as a science

Memorial to Trudeau—Announcement has been made of a fund established by Samuel Mather of Cleveland to found a school for the graduate study of tuberculosis as a memorial to the late Dr Edward L Trudeau The school will probably be located at Saranac Lake, N Y, and courses will be offered to physicians who wish to become proficient in the diagnosis of tuberculosis Cooperating agencies for special study will also be established in New York City

Society Awards Prizes—The Tri-State Medical Society of Arkansas-Louisiana-Texas has awarded the gold medals for the three best papers on original research work presented to the society, as follows first prize, Dr Thomas E Wright, Monroe, La, second prize, Dr Herbert L McNeil, Galveston, Texas, and third prize, Dr Truman C Terrell, Fort Worth, Texas The society has voted to renew its offer for the next meeting which will take place at Texarkana in December, 1916

The de Roaldes Prize—The American Laryngological Association announces that the de Roaldes prize, a gold medal, valued at $100, the object of which is to encourage the advancement of the sciences of laryngology and rhinol ogy, is now open for competition to practitioners in regular standing in the United States and Canada, not members of the American Laryngological Association Essays must be typewritten, the customary means being taken to prevent disclosure of the author's name They must be placed in the hands of the secretary of the association, Dr Harmon Smith, 44 West Forty-Ninth Street, New York, prior to April 20, 1916

Bequests and Donations—The following bequests and donations have recently been announced

New York Infirmary for Women and Children $6 000 American Social Hygiene Association, $5,000 by the will of Miss Grace Hoadley Dodge of New York City

Chautauqua County (N Y) Tuberculosis Sanatorium $150 000 for construction and equipment, by the will of Mrs Elizabeth M Newton

Boehne Antituberculosis Camp near Evansville Ind $1 000 by the will of Mrs Mary Stockwell

Grinnell College Grinnell, Ia, a donation of $150 000 by Dr LeRoy Dibble Kansas City, Mo

Fund for the relief of destitute Polish in the war zone, a donation of $1 000 by J A. Patten of Evanston, Ill

Various Red Cross services abroad a donation of $1 000 by Mr Robert Allerton of Chicago

United Hebrew Charities and Mt Sinai Hospital, New York City each $1 000, by the will of Isaac Metzger

Brooklyn Eye and Ear Hospital, $5 000 Brooklyn Hospital and Brooklyn Home for Consumptives each $2 500, by the will of Colonel R W Woodward.

Congress on Medical Education, Public Health and Medical Licensure—A congress on medical education, public health and medical licensure, participated in by the Councils on Medical Education, and on Health and Public Instruction of the American Medical Association, the Federation of State Medical Boards of the United States and the Association of American Medical Colleges, will be held at the Congress Hotel, Chicago, Feb 7 and 8, 1916

On Monday, February 7, the Council on Medical Education will hold its twelfth annual conference The conference will open at 9 o'clock with an address by the chairman, Dr Arthur Dean Bevan, followed by a report from the secretary Dr N P Colwell The balance of the morning will be devoted to a symposium on "Relation of the Laboratory Courses to the Work of the Clinical Years" The speakers in this symposium will be Dr E P Lyon, dean of the University of Minnesota Medical School, Dr L F Barker, professor of clinical medicine Johns Hopkins University Medical School, Dr James Ewing, professor of pathology, Cornell University Medical College, and Dr Charles H Frazier, professor of surgery, University of Pennsylvania, School of Medicine

In the afternoon there will be a joint conference between the Federation of State Medical Boards and the Council on Medical Education The entire afternoon will be taken up with a symposium on "The National Board of Medical Examiners" The speakers will be Dr W L Rodman, President of the American Medical Association, Surgeon-General W C. Gorgas, W C. Braisted and Rupert Blue, respectively, of the United States Army, Navy and Public Health Service, Dr Herbert Harlan, president of the Maryland State Board of Medical Examiners, Dr Victor C Vaughan, dean of the University of Michigan Medical School, and Dr Isadore Dyer, dean of the Tulane University of Louisiana, School of Medicine.

On Monday evening, at 8 o'clock, the Federation of State Medical Boards of the United States will hold a conference The program will consist of an address by the president, Dr Charles H. Cook of the Massachusetts Board of Registration in Medicine, a Report on Uniform Preliminary Requirements, by Dr Beverly D Harison secretary of the Michigan State Board of Registration in Medicine, a paper on What the Federation Could Accomplish," by Dr Otto V Huffman secretary of the Long Island College Hospital, another on 'The Regulation of Drugless Practitioners, by Dr George H Matson, secretary of the Ohio State Medical Board and a third on "Standardization of Hospitals' by Dr John M Baldy, president of the Pennsylvania Bureau of Medical Education and Licensure.

On Tuesday February 8, the Council on Health and Public Instruction of the American Medical Association will hold its annual conference At the morning session Prof Irby Hudson of Nashville, Tenn., secretary of the board of preliminary examination will present a paper on the results of this plan The remainder of the forenoon will be devoted to a symposium on 'A Model Medical Practice Act' The speakers will be Dr Horace D Arnold of Boston representing the Council on Medical Education, Dr Walter L Bierring of Iowa City Iowa secretary of the Federation of State Medical Boards of the United States Dr W I Meanes of Columbus Ohio representing the Association of American Medical Colleges, Dr Royal D Copeland of New York City, representing the homeopathic school, Dr. John K. Scudder of Cincinnati, representing the eclectic school, and Hon Thomas S Hogan of Chicago, attorney for the Illinois State Board of Health

The afternoon program will be devoted to a discussion of state public health organization Dr Charles V Chapin, commissioner of health of Providence, R I, and special representative of the council, will present a paper on "State Public Health Organization," embodying the results of his recent survey of state public health work Dr J W Kerr of Washington, D C., assistant surgeon-general of the United States Public Health Service, will discuss the "Relation Between Federal and State Public Health Organization" These papers will be discussed by Dr H M Bracken of St Paul, secretary of the Minnesota State Board of Health, Dr A G Young, Augusta, Maine, secretary of the Maine State Board of Health and president of the conference of state and provincial boards of health, Dr Samuel G Dixon of Harrisburg, Pa, commissioner State Department of Health, Dr W S Leathers of University, Miss, state director of public health, Dr John A Ferrell of New York City, assistant director of the Rockefeller International Health Commission, Dr S J Crumbine of Topeka, Kan., secretary of the State Board of Health of Kansas, and Dr J N Hurty of Indianapolis, secretary of the State Board of Health of Indiana

On Tuesday afternoon, beginning at 2 o'clock, there will be a joint meeting of the Association of American Medical Colleges and the Federation of State Medical Boards, which will be held in the south parlor of the Auditorium Hotel The program is as follows "Teaching of Preventive Medicine," Dr M P Ravenel, professor of medical bacteriology and preventive medicine, University of Missouri, School of Medicine "The Teaching of Applied Therapeutics," Dr Francis H McCrudden assistant professor of applied therapeutics, Tufts College Medical School, "Clinical Teaching of Medicine' Dr Frank Billings professor of medicine, Rush Medical College, and "Clinical Teaching of Surgery" Dr A C Stokes associate professor of clinical and experimental surgery, University of Nebraska College of Medicine

In the evening, Dr Cressy L Wilbur, special agent of the Federal Bureau of the Census will give an illustrated lecture on "The Doctor and Vital Statistics"

These annual conferences have elicited an increased interest since they were begun by the Council on Medical Education in 1905 A large attendance this year is anticipated

FOREIGN

Havana Flyless—In *Current Reports*, Special Agent Garard Harris states that the fly or mosquito is a real rarity in Havana and that screens are not necessary and the absence of these pests is simply the result of municipal cleanliness and care

Typhus in Mexico—Telegrams to the Mexican consulate in El Paso, Texas, state that official records in Mexico City and suburbs show 3,241 typhus cases in December with total deaths in the city proper of 305 In November the total number of cases was 2 199 with 400 deaths

Gift from American Surgeon to Medical Assembly Building at Berlin—According to the *Allgemeine med Central-Zeitung* Dec 4 1915 Professor Halsted of the chair of surgery of the University of Baltimore has donated 2 000 marks (about $500) through Professor Kocher of Bern to the Langenbeck-Virchow Haus at Berlin

Deaths in the Profession Abroad—A Ceccherelli one of the leading surgeons of Italy chief of the surgical clinic of the University of Parma professor of surgery since 1883 and frequently a delegate from Italy to international scientific gatherings succumbed recently to a lingering illness ——I Makara, professor of surgery at the University of Klausenburg Hungary, aged 53

Foundation of Pediatric Society at Madrid—The president of the newly organized society is Dr B G Alvarez on the editorial staff of the *Pediatria Española* In his opening address he called attention to some of the most pressing problems in pediatrics and announced the foundation of a prize to be awarded for the best work, based on original research on the hemorrhagic diathesis

WAR NOTES

Cholera in Austria—The *Wiener klinische Wochenschrift* states that in Galicia and Bukowina there were 980 cases of cholera reported in September with 436 deaths Th were also 1,803 cases of smallpox during the same period Only 35 cases of smallpox were reported elsewhere in the empire

Toronto University Men in Active Service—President Falconer of the University of Toronto addressed the student body last week He stated that thirty-one undergraduates had left the previous week to take commissions with the imperial army There are now about 1,700 varsity men on active service Of the university staff, seventy-three are serving as officers and eight are in the ranks Graduates numbering 746 are officers and 171 hold other ranks There are 284 undergraduates serving as officers and 381 in the ranks

Summary Repression of Publications Denouncing Vaccination, Etc—Our German exchanges state that in a number of army corps regulations have recently been adopted prohibiting the printing, the issuing and the distribution of circulars in which the efforts of scientific medicine or the medical measures enforced by the authorities are belittled or denounced The penalty may be up to a year's imprisonment The regulations at first applied merely to antivaccination propaganda, but recently a general order has been issued prohibiting any propaganda by circulars against the medical measures endorsed by the state

Scarcity of Clinical Thermometers in France—At a recent meeting of a Paris medical society, Netter reported that vulvovaginitis had not been encountered for many years in his scarlet fever service but that now it was prevailing, and he had traced the epidemic to the use of thermometers in common There are too few thermometers on hand for individual use, as is the custom He related that before the war all the thermometers had been imported from Germany At present they are being obtained from America, but the American thermometers are considerably more expensive and more fragile He urged the authorities to take steps to put an end to this *pénurie de thermomètres* as the army as well as the civilian population is suffering from it French manufacturers are ready to undertake to make them if they can get hold of some skilled workmen

Personal—Maj H H Alger, Stirling, Ont, medical officer to the Eightieth Battalion, has been promoted to be lieutenant-colonel——Dr Herbert G Murray, Owen Sound, Ont, medical health officer, has been appointed to the Canadian Army Medical Corps to be attached to Queen's University Hospital, with the rank of captain He reports at Kingston at once and will sail for Cairo, Egypt, in the near future——Lieut-Col James C Connell, dean of the medical department of Queen's University, Kingston, Ont, has been overwhelmed with applications for places in the reinforcements to be sent to their base hospital at Cairo The reinforcements are necessitated by the fact that the hospital has been increased to one of 1,040 beds Dr Albert P Chown, Kingston, has applied and will be given the rank of captain and will become the druggist of the hospital——Dr George Hanley, medical officer for Fort Henry Detention Camp at Kingston, Ont, has been given a commission in the R A M C and will leave for England immediately——Dr R W Bruce Smith, Toronto, inspector of hospitals and public institutions in Ontario, has been confined to his house by illness for several months——Dr J Ernest Carmichael, Collingwood, Ont, has been appointed to the Canadian Army Medical Corps with the rank of captain He will be attached to Queen's University Base Hospital (now at Cairo, Egypt——Dr Ferguson, Smith's Falls, Ont, has arrived in Kingston, Ont, to take commission as captain with Queen's reinforcements for their base hospital in Cairo

PARIS LETTER

Paris, Dec 16, 1915

The War

LOCALIZED TETANUS

In a previous letter (The Journal, Dec 11, 1915, p 2102) I mentioned a report by Professor Pozzi of a case of localized tetanus Dr Routier, surgeon of the hospitals of Paris, has just called the attention of the Academie de medecine to this particular form of tetanus Routier declares that, in spite of preventive injections of antitoxin, tetanus may manifest itself within a few days after the wound or still later, the nature of the wound may furnish no indication by which it would be possible to foresee the outbreak The attention of the surgeon, however, may be attracted by the sudden outbreak of violent pain in a limb, which may not be near the wound In such cases contracture soon follows, accompanied by reflexes and epileptoid trembling This form of tetanus is as serious as the classic generalized tetanus The temperature is not so high, however Routier isolates the patient and gives chloral in doses of 10 gm per day and three subcutaneous injections every twenty-four hours of a saline solution composed of sodium persulphate and calcium phosphate containing enough phosphoric acid to render the mixture soluble in ten parts of water These injections are painful To diminish the pain, Routier combines them with injections of morphin

Dr C Monod, honorary surgeon of the hospitals of Paris, reported the case of a patient with localized tetanus who was treated successfully by heavy doses of chloral and intraspinal injections of magnesium sulphate, the calming effects of which were remarkable Dr Vaillard, medical inspector-general of the military medical service reported two cases of delayed and localized tetanus

Dr Brachet, naval physician at Rochefort, reported the case of a man who was attacked with localized tetanus ninety seven days after his wound

ARTICULAR STIFFNESS AND ANKYLOSIS AFTER WOUNDS BY FIREARMS

Dr Delorme, medical inspector-general of the military medical service, presented before the Academie de medecine a paper on this subject, which was especially interesting because it reported a large number of cases of stiff joint or ankylosis There unfortunate results will seriously affect the future of the patients The ordinary causes are too prolonged immobilization neglect or insufficient oversight of articular gymnastics and the use of exercise to the neglect of other measures According to Delorme, exercise is too exclusively employed in these cases of stiffness and ankylosis, its use is too much delayed and the methods are not adapted to the circumstances and conditions Delorme believes that in a large number of cases orthopedic surgery should be used instead The characteristics of the method used by Delorme are that, immediately after operation for the ankylosis, he systematically employs energetic compression of the joint by wadding alternately with mobilization This method has given him the best of results In hundreds of cases of ankylosis treated without result by other methods, he has obtained a cure

UNATTACHED NURSES

Recently various periodicals have published a statement that M Justin Godart, assistant secretary of the war department for the military medical service, intends to license the nurses of the three societies of the Red Cross (Sociéte de Secours aux Blesses Militaires, Association des Dames Françaises, Union des Femmes de France) This report is not true A certain number of male nurses having been called into the army service, M Godart has been endeavoring to utilize to the best advantage the services of the unattached female nurses—the women, numbering several thousand, who although not belonging to any society, wish to aid in the care of sick or wounded soldiers, and who have offered their services directly to the war department Many of these women nurses have been in service for many months in the hospitals of the interior It has been thought, however, that they might be employed nearer the front About fifty of those chosen among the best are now at Marseilles about to join the army in the east Others will be sent nearer the front.

THE CROSS OF WAR AND THE MEDICAL STAFF

A few months ago a special decoration was created called the Cross of War It is intended for the soldiers who have been mentioned for gallantry Complaints have been made of abuses of this decoration, which has sometimes been awarded to persons who have remained in the interior of the country

A CANADIAN HOSPITAL FOR FRENCH SOLDIERS

The French Canadians, desiring to show their affection for the country of their origin, have requested that one of the hospitals founded by them be placed at the disposition of France for the care of French soldiers Mr Robert Borden prime minister of Canada, has accordingly directed General Jones, director of the Canadian medical service, to place Stationary Hospital No 4 at the service of France This hospital is at present located at the hippodrome of St Cloud It is composed of 14 double-walled buildings and 110 tents and also occupies the buildings of the racing society Six hundred patients can be cared for there All the staff belongs to the British army and is composed solely of French Canadians There are 15 physicians and 168 nurses and other subordinates The hospital which will probably open its doors during January has been placed at the disposal of the medical service exclusively for French patients

LONDON LETTER

London, Dec 20, 1915

The War

THE SUPPLY OF ARMY SURGEONS

The number of army surgeons amounts to about 10 000 of whom three fifths hold temporary commissions Thus, about a third of the whole profession in the United Kingdom is engaged in war service In addition the colonies are employing with their armies about a fifth of their physicians But there is still a demand for more In this country the Central Medical War Committee (an organization formed by the profession and recognized by the government) is organizing the profession so as to enable every fit physician to serve the country in such a manner as to turn his qualification to the best possible use and to deal with all matters affecting the profession arising in connection with the war The committee has conferred with various government departments, and particularly with the national health insurance commissioners (who are now responsible for the treatment of he greater part of the industrial population) in order that recruiting may be carried out with careful regard to the needs of every locality Taking the country generally, there is an ample supply of physicians of military age to meet any demands that seem likely to be made But these men are unequally distributed some are in areas never too well supplied with physicians at any time so that the withdrawal of comparatively few might cause serious difficulties Some are in areas in which the proportion of physicians to the population is such that a large number could be spared with comparatively little inconvenience to the community The task before the Central Medical War Committee is so to adjust the demands in each area as to convince both physicians and the general public that these demands are equitable If the supply of physicians is found weak in any particular area, a warning is given not to recruit in that one In the big cities and towns there are many physicians willing to go to the front, but they have contracted liabilities, such as the rent of an expensive house, or the unpaid part of the purchase money of a practice They are faced with the considerable falling off of patients when they return Suggestions have been put forward to facilitate their joining the army Those who practice at watering places could often leave their practices for six months with little loss On the other hand in urban districts the need for physicians is often reduced in the summer In some cases two men are willing to take service turn about, one doing the home work while the other is away but the War Office has not yet seen its way to accept such offers of joint service Another suggestion is for multiple war partnership Several men say six neighbors, might unite for the duration of the war and for five years after Two or three could be released for war service while the others worked the practice The military pay could be paid into the general account, and the whole divided in an agreed proportion This plan has the advantage of securing to each man the good will of his practice, because for the five years after the war he would have ample opportunity to regain any that he had lost A third system is for physicians gone on war service to leave behind a list of their patients who will be attended by neighboring practitioners on their behalf and restored on their return, all fees to be divided equally with the absentee A fourth system is the establishment of a central clinic, but this would be suitable only for insurance and other patients of the industrial classes

RELIEF WORK BY ENGLISH QUAKERS IN FRANCE

Their religious principles prevent Quakers fighting in war (although the circumstances of the present war have caused some of them to waive their objections) Whether because of their well-known philanthropy or because they think that abstention from war specially imposed on them duties in connection with it, they have always organized relief for the victims In the Franco-German War of 1870 they did a great deal in many ways including help in the rebuilding of destroyed homes In the present war they have formed a War Victims' Relief Committee, of which the work in France is of four kinds—medical, building, relief and agriculture On the medical staff there are two doctors, eight fully trained nurses nine partly trained nurses and midwives, and two assistants, who are engaged at five centers of work at Chalons-sur-Marne and Sermaize, they are doing hospital work, at Bettaincourt a fine chateau has been lent and a convalescent home established for fifty children, in the devastated villages in the departments of Marne and Meuse and at Bar-le-Duc, medical and district nursing are being done At Chalons the number of maternity patients had lessened very much since March, and an average of only ten babies had been born each month A small ward containing eight cots has been devoted to the care of sick babies, and has proved an invaluable adjunct to the work of the Chalons Civil Hospital which has been overfull Their work has received the warmest encomiums from the French authorities and the French people

THE PROBLEM OF INDUSTRIAL FATIGUE AMONG MUNITION WORKERS

The war has created a demand for munitions out of all proportion to anything contemplated previously in this country Overtime on a large scale and even Sunday labor became the rule and soon statements were made that the health of the workers was being injured by the long hours The government therefore appointed a committee of physicians physiologists, officials and others to consider and advise on questions of industrial fatigue, hours of labor and other matters affecting the health and physical efficiency of munition workers A report has been published on Sunday labor and industrial canteens, and a report is in preparation on such subjects as welfare supervision, hours of labor, the employment of women, sickness and accidents With regard to Sunday labor the committee has come to the conclusion that it should be everywhere discontinued except for the tending of furnaces and other work which must be continuous Except for quite short periods, continuous work is, in their opinion, a profound mistake, not only on social and religious grounds but also economically, as the output is not increased This is so not only because men become bored and wearied with monotony of the work but also because over a large period the actual number of hours worked is found to be greater when the regulation weekly hours are reduced Thus in one case the regulation hours were reduced from 78½ to 65½ per week, yet the average number actually worked during the three months succeeding the change was 60 per week, while the average in the preceding six months was 59¼ The committee also thinks that the foremen and even the higher management require definite periods of rest even more than the manual workers

On the subject of food the committee considers that industrial alcoholism is partly due to the lack of cheap good food The provision of dining rooms near the factory and industrial canteens has been found to be a great improvement on going home for meals After their establishment a reduction in sickness less absence and broken time less tendency to alcoholism and increased efficiency in output were observed

---

Marriages

Constantine George Psaki M D, New York City to Miss Frances de Chantal Vogel of Jersey City, N J, in New York City recently

Harry Griffith Hirschle, M D., to Miss Leota L. Harless, both of Canton, Ill, in Chicago, December 18

Sessler Hoss M D., Muskogee, Okla., to Miss Irene Morrow of Nashville, Tenn, December 25

Edward Joseph Buxbaum, M D., Jamaica, N Y., to Miss Theresa Gross of Brooklyn, December 23

Herbert John Schmoyer, M.D., Bethlehem, Pa., to Mrs Bessie M. Mitchell at Allentown, Pa., November 5

Theodore Evelyn Townsend M.D, to Mrs Ethel D Naylor, both of Westwood, N J, December 24

Charles McVea Buckner, M D., Huntington, W Va., to Mrs Dorothy Brinton of Philadelphia

Lafe Helmuth Fritz, M.D., Dubuque, Iowa, to Miss Janet McElroy of Pittsburgh, December 29

Luther A. Rexford M D., to Mrs Pearl David, both of Minneapolis December 22

Miles John Breuer, M D, to Miss Julia E Strejo, both of Lincoln, Neb, January 4

Deaths

George Thomas Jackson, M D College of Physicians and Surgeons in the City of New York, 1878, aged 63, a Fellow of the American Medical Association and one of the most noted dermatologists of the United States, died at his home in New York City, January 3, from pneumonia, Dr Jackson was born in New York City, Dec 19, 1852, and after his graduation in medicine spent two years in postgraduate study in Berlin, Vienna and Strassburg On his return he was in general practice in New York until 1884, after that time devoting himself entirely to his chosen specialty of dermatology In 1890 he was appointed professor of dermatology at the Women's Medical College and New York Infirmary, in 1895 he accepted a similar position in the University of Vermont, Burlington, returning to New York two years later to become instructor in dermatology in his alma mater, and in 1905 he was made professor of dermatology He was consulting dermatologist to the Presbyterian Hospital and New York Infirmary for Women and Children, the author of works on "Diseases of the Hair and Scalp" and "The Ready Reference Handbook of Dermatology " He was a Fellow of the American Medical Association, once president of the American Dermatological Association and the New York Dermatological Society and was honorary librarian of the New York Academy of Medicine

Charles Clifford Barrows, M D University of Virginia, Charlottesville, 1879, New York University, New York City, 1880, aged 58, a Fellow of the American Medical Association and American College of Surgeons, once president of the Bellevue Hospital Alumni Association and New York Clinical Society, from 1882 to 1887 acting assistant surgeon, U S Army, and thereafter a practitioner of New York City, assistant professor of clinical surgery in Cornell University Medical Department, a member of the New York Obstetrical Society and New York Academy of Medicine, surgeon to the Manhattan Maternity Hospital, assistant gynecologist to Bellevue Hospital and consulting surgeon to the New Rochelle and Peekskill hospitals, died at his home in New York City, January 2, from pneumonia

James Clarke White, M D Harvard Medical School, 1856, aged 82, a prominent dermatologist of Boston, a member of the Massachusetts Medical Society, American Academy of Arts and Sciences and many foreign scientific organizations, first president of the American Dermatological Society in 1902 and 1903 and president of the International Dermatological Association, died at his home in Boston, January 6 Dr White was a native of Belfast, Me, studied for a year in Vienna after his graduation in medicine and then began practice in Boston He became lecturer on chemistry in Harvard Medical School in 1863, was made adjunct professor of chemistry in 1866, instructor in medical chemistry in 1871, and was professor of dermatology from 1871 until 1902 when he became professor emeritus

Isaac Ott, M D University of Pennsylvania, Philadelphia, 1869, aged 68, a Fellow of the American Medical Association, fellow in biology in Johns Hopkins University in 1879, lecturer on physiology in the University of Pennsylvania in 1878, professor of physiology in 1884 and dean in 1895 and 1896 of the Medico-Chirurgical College of Philadelphia, a member and formerly president of the American Neurological Association, chairman of the physiologic section of the Pan-American Congress, consulting neurologist to the State Hospital, Norristown, Pa, author of a number of monographs on diseases of the nervous system, the last of which, a work on "Internal Secretions," was published in 1910, died at his home in Easton, Pa, January 1, from pneumonia

William B Graham, M D Rush Medical College, 1861, aged 80, a member of the Indiana State Medical Association and said to have been the oldest practitioner of Hamilton County, Ind, surgeon of the One Hundred and First Indiana Infantry, U S V, during the Civil War and for three months a prisoner in Libby Prison, Richmond, Va, who, on the occasion of his semicentenary of practice in 1911, was the guest of honor of the Hamilton County Medical Society and was presented with a gold-headed cane, for thirty-five years local surgeon at Noblesville, Ind, for the Lake Erie and Western Road, and for several terms secretary of the board of health of Noblesville, died at his home in that city, December 29

Robert Stormont Anderson, M D Kentucky School of Medicine, Louisville, 1884, aged 54, a Fellow of the American Medical Association and president of the Gibson County (Ind) Medical Society, for many years a practitioner of Princeton, Ind, and health officer of Princeton and Gibson County, local surgeon to the Southern, and Chicago and Eastern Indiana systems, for several years a member of the board of education of Princeton, died at his home, December 23, from appendicitis At a meeting of the Gibson County Medical Society, December 23, a committee was appointed to draft suitable resolutions regarding the death of Dr Anderson

Charles Heady Beard, M D University of Louisville, Ky, 1887, aged 60, a Fellow of the American Medical Association and American College of Surgeons, a member of the Mississippi Valley Medical Association, Chicago Ophthalmological Society of which he was once president, American Ophthalmological Society and Physicians' Club of Chicago, chief surgeon of the Illinois Charitable Eye and Ear Infirmary and head of the ophthalmologic staff of the Passavant Memorial Hospital, for more than thirty years a specialist on diseases of the eye and ear, died at his home in Chicago, January 3, from carcinoma of the stomach

Granville T Collins, M D Medical College of Virginia, Richmond, 1894, aged 57, a Fellow of the American Medical Association and Richmond Academy of Medicine and Surgery, a well-known practitioner of Highland Springs, Va, who was injured, December 25, in a collision between his automobile and a passenger train of the Chesapeake and Ohio Railway at Laundry Crossing, died in St Luke's Hospital Richmond, December 26 The Richmond Academy of Medicine and Surgery held a special meeting, December 27, to take suitable action and draw up resolutions of sympathy for the bereaved family

William J Ashenfelter, M D University of Pennsylvania, Philadelphia, 1870, a member of the Medical Society of the State of Pennsylvania and of the Association of Military Surgeons of the United States, formerly surgeon of the Sixth Infantry, Pa N G, and also brigade surgeon, major surgeon of the Sixth Pennsylvania Volunteer Infantry, during the Spanish-American War, for many years chief of staff of the Pottstown, Pa, Hospital, a well-known and beloved practitioner of Pottstown, died at his home in that city, Jan 1

Charles Townshend Dade, M D College of Physicians and Surgeons in the City of New York, 1891, aged 56, a Fellow of the New York Academy of Medicine and a member of the New York Dermatological Society, consulting dermatologist to Roosevelt Central Islip, Englewood and Vassar Brothers hospitals, chief of the dermatologic clinic of St Luke's Hospital, New York City, and for many years connected with the Vanderbilt Clinic, died at his home in New York City, December 26

William W Blair, M D Medical College of Ohio, Cincinnati, 1850, aged 88, a member of the Indiana State Medical Association and one of the oldest practitioners of the state, who was the guest of honor of the Gibson County Medical Society in 1910 on the occasion of the sixtieth anniversary of his entrance into the practice of medicine, surgeon of United States Volunteers for four years during the Civil War, died at his home in Princeton, Ind., January 2.

Rose Talbott Bullard, M D Northwestern University Woman's Medical School, Chicago, 1886, aged 51, a Fellow of the American Medical Association and formerly president of the Los Angeles County Medical Association, secretary of the Los Angeles Antituberculosis League, and one of the most prominent woman surgeons and gynecologists of the Pacific Coast, died in California Hospital, Los Angeles, December 22, a week after an operation for peritonitis

Edgar Reeve Bryant, M D Hahnemann Medical College, Philadelphia, 1889, aged 49, professor of surgery, registrar and a member of the board of directors of the Hahnemann Medical College of the Pacific, San Francisco, surgeon to the San Francisco City and County Hospital, died in Lane Hospital, San Francisco, December 30, from injuries received in a fall through a skylight in the California Building of the Panama-Pacific Exposition, December 4

Josiah Lee McComas, M D University of Maryland Baltimore, 1858, aged 80, acting assistant surgeon, United States Army, throughout the Civil War, a founder and vice president of the Pan-American Medical Congress, health officer of Garrett County, Md., and local surgeon at Oakland for the Baltimore and Ohio System for many years, died at the home of his son in Oakland, Md., December 20

Fenner H Peckham, M D Yale University, New Haven Conn, 1866, aged 71, a member of the Rhode Island Medical Society, for many years active as a practitioner and banker of Providence, R I president of the Providence Public Park Association and chairman of the Metropolitan Park Commission of Rhode Island since 1905, died at his home in Providence, December 26 from heart disease

Charles H Emmerling, M D University of Jena, Germany, 1857, aged 82, formerly a Fellow of the American Medical Association, a member of the Medical Society of the State of Pennsylvania for more than half a century a prominent practitioner of Pittsburgh and a member of the medical staffs of the Passavant Pittsburgh and West Penn hospitals, died at his home in Pittsburgh, December 27

George Suttie, M D Detroit College of Medicine and Surgery, 1893, aged 63, assistant to the chair of ophthalmology and otology and professor of botany in the department of pharmacy of his alma mater, lecturer on chemistry in the Detroit Technical Institute a specialist on diseases of the eye and ear, died in Harper Hospital, Detroit, January 1 from pneumonia

William McKinnon Goodlove, M D Medical College of Ohio Cincinnati 1872, aged 69, a veteran of the Civil War, appointed surgeon in the Bureau of Pensions Washington, D C., in 1885, and since that time a clerk in the Public Debt and Customs Division of the Treasury Department Washington, D C., died at his home in Washington, December 26

Henry Herbert Atkinson, M D Cooper Medical College, San Francisco, 1900, aged 45, a missionary of the American Board of Commissioners for Foreign Missions at Mezerek, Mamurette-ul-Aziz and later at Harpoot, Turkey-in-Asia where he was in charge of the Annie Tracy Riggs Memorial Hospital, died in Harpoot, January 1, from typhus fever

John Henry Silvey, M D Cincinnati College of Medicine and Surgery 1877, Bellevue Hospital Medical College, 1878, aged 70, a Fellow of the American Medical Association, formerly a druggist and practitioner of Wheeling W Va, but for the last three years a practitioner of Sharpsburg, Pa , died at his home in that place December 27

William Clifton Drein, M D University of Pennsylvania, Philadelphia 1899 aged 39 physician-in-chief to the Stetson Hospital, Philadelphia, and a member of the Philadelphia Medical Club, died in the Episcopal Hospital Philadelphia January 1, from disease of the lungs for which operation had been performed five days before

Edward Beach Crowell, M D College of Physicians and Surgeons in the city of New York, 1853, aged 86, later a practitioner of Paris, France, and afterward a lawyer of New York City, died at his home in New Brighton, S I January 2, from the effects of injuries sustained a month before in a fall in a street car

George Dallas Barrett, M D Dartmouth Medical School, Hanover, N H, 1878, aged 69, formerly a member of the Medical Society of the State of New York and Massachusetts Medical Society, health officer of the town of Galen N Y , died at his home in Clyde N Y., December 23, from uremia

Lawrence Anderson, M D Tulane University, New Orleans, 1890, aged 55, a dentist of Lake Charles, La, and later a practitioner of Tulsa Okla , formerly a member of the Louisiana State Medical Association, died at his old home in Lake Charles, recently, from diabetes

James Lisle, M D Cincinnati College of Medicine and Surgery, 1873, aged 76, from 1884 to 1888 a representative in the Ohio State Legislature from Licking County a veteran of the Civil War, died at his home in Columbus, Ohio, December 22, from cerebral hemorrhage

Pliny W Blanchard, M D Berkshire Medical College, Pittsfield, Mass, 1854, aged 86, assistant surgeon of the Forty-Ninth Wisconsin Infantry, U S V., throughout the Civil War, for sixteen years health officer of Harvard, Ill , died at his home in Harvard, December 17

Samuel Stille, M D University of Pennsylvania, Philadelphia, 1875, Pennsylvania Medical College, Gettysburg, 1857, aged 86, a pioneer practitioner of Atlantic City and senator from Atlantic County, N J., from 1863 to 1865, died at his home, December 23, from pneumonia

Maximilian Kuznik, M D College of Physicians and Surgeons, Chicago, 1903, aged 36, professor of clinical diagnosis in Hering Medical College, and the Chicago College of Medicine and Surgery, died at his home in Chicago, January 4, from rheumatic endocarditis

Roderick Fraser, M D Bellevue Hospital Medical College, 1897, aged 45, formerly of New York City, but for three years a resident of Saranac Lake, N Y , died at his home in that place, December 16, from tuberculosis

Charles Eugene Norris, M D University of Michigan, Ann Arbor, 1886, aged 57, a Fellow of the American Medical Association and treasurer of the Summit County, Ohio, Medical Society for four terms, died at his home in Akron, Ohio, December 29, from pneumonia

George W Bennett, M D University of Louisville, Ky, 1882, aged 57, died at his home in Fort Sumner, N M, December 26, from the effects of a gunshot wound of the head, self-inflicted, it is believed, with suicidal intent, while despondent on account of ill health

William Ernest Montgomery, M D Memphis Hospital Medical College 1900, aged 37 a member of the Mississippi State Medical Association, of Norfield, Miss , died suddenly while returning from a professional call near Bogue Chitto, December 25, from heart disease

Caleb M Chalfant, M D Western Reserve University, Cleveland 1857, aged 82, for nearly half a century a practitioner of Cleveland Heights, surgeon of Volunteers during the Civil War, died in the Lutheran Hospital, Cleveland, December 29, from pneumonia

Daniel Morrison Benonia Thorn, M D Rush Medical College 1874, aged 71, for forty-one years a missionary of the American Board of Commissioners for Foreign Missions in Mardin, Turkey, where he was in charge of a hospital, died in Sivas Turkey, December 6

Otto Stuckert, M D College of Physicians and Surgeons, Keokuk, Iowa, 1890, aged 53, of Whiteside, Mo , died in the Missouri Baptist Sanitarium, St Louis, December 20, from the effects of a self inflicted gunshot wound of the head

Henry Laurens Metcalfe, M D Tulane University, New Orleans, 1878, for five years a resident of South America and thereafter a practitioner of Natchez, Miss , died at the home of his brother in that city, December 14

David L Deal, M D Medical Department of the University of the Pacific, San Francisco, 1861, Cooper Medical College San Francisco, 1882, aged 73, died at his home in Pacific Grove, Calif, December 16

George B Bristol (license, Connecticut, 1893), health officer of Middlebury, Conn , for more than thirty years a practitioner of that place, died at his home, December 1, from cerebral hemorrhage

Eugene W Beebe, M D Hahnemann Medical College, Chicago, 1866, aged 75, of Milwaukee, a specialist on diseases of the eye and ear, died at his home, December 19, from cerebral hemorrhage

James Allen Jones, M D University of Louisville, Ky, 1890, aged 48, a Fellow of the American Medical Association, of D'Hanis, Texas, was shot and killed at his home, in that place, December 17

Alfred Victor Brailly, M D College of Physicians and Surgeons in the City of New York, 1875, aged 63, died at his home in the Bronx, New York City, December 22, from pneumonia

Owen C Morris, M D University of Virginia, Charlottesville, 1896, aged 52, died at his home in Iron Gate, Va, from a glioma of the brain for which operation had twice been performed

Elliot Benjamin Smith, M D Bellevue Hospital Medical College, 1867, aged 80, for nearly half a century a practitioner of Greeneville, Tenn , died at his home, December 17

William A. Swimley, M D Cincinnati College of Medicine and Surgery, 1876, aged 70, of Winchester, Va , died at the home of his son in Staunton, Va., December 18

Willard H Greene, M D Jefferson Medical College, 1865, aged 89, a veteran of the Civil War, died at his home in Cumberland, R I, December 21

Cora E Taylor, M D Pulte Medical College, Cincinnati, 1884, aged 62, died at her home in Chicago, December 22, from cerebral hemorrhage

Richard H Galphin, M D Medical College of Georgia, Augusta, 1884, of Beech Island, S C , died at a hospital in Augusta, December 15

Samuel Omar Duncan, M D Rush Medical College, 1896, aged 48, died at his home in Forest, Ind, December 18, from tumor of the brain

Frank Ellett Bell, M D Medical College of Virginia, Richmond, 1908, aged 31, died at his home in Wilmington, Va, December 18

Edward S Fowler, M D McGill University, Montreal 1894, died suddenly at his home in Staples, Minn, December 18

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

SO-CALLED SECRETIN PREPARATIONS

Report of the Council on Pharmacy and Chemistry

The Council authorized the following report for publication, and voted to endorse the work of Professor Carlson discussed therein.

W. A. Puckner, Secretary.

The Council has not accepted for inclusion in New and Nonofficial Remedies any preparations said to contain secretin or prosecretin as their active ingredient. A report giving the reasons for the rejection of one (the first of the so-called secretin preparations marketed) was published early last year,[1] an article on secretin, based on work undertaken at the request of the Council on Pharmacy and Chemistry, is now published.[2]

Lest the appearance of this detailed study of secretin, after the rejection of so-called secretin preparations, should be interpreted (as manufacturers whose products have been rejected have endeavored to interpret such action) as a case of first condemning a preparation and then getting the facts, the Council's methods, and their application in this case, may be briefly stated. The Council maintains that, when a manufacturer places a product on the market, the burden of proof is on that manufacturer to show that the properties of his product are in accordance with his claims for it. As stated in the introduction to N. N. R., "it is . . . manifestly impossible for the Council to investigate the composition of every complex pharmaceutical mixture, or to check thoroughly every therapeutic claim, it can give only an unbiased judgment on the available evidence." Acting on this principle, the Council examined the claims made for Secretogen, an alleged secretin product manufactured by the G. W. Carnrick Company. The conclusion was that these claims were in absolute conflict with the available evidence as to the action of secretin.

It is not necessary to review this subject again. It will suffice to state that the claims made for Secretogen rest on two fundamental propositions (1) that deficiency of secretin (or, rather, of prosecretin) in the intestinal mucosa is a factor in gastro-intestinal diseases, (2) that secretin given by the mouth is absorbed and produces increased secretion of the pancreatic and intestinal juices and of the bile.

From an examination of the evidence available, including that submitted by the manufacturers, the Council concluded "1. No evidence has been presented that the absence of secretin is a cause of gastro-intestinal disease. 2. There is no evidence that secretin in any form is physiologically active when administered by mouth." That these conclusions were justified is shown again by the review given by Carlson of the literature, much of which was also reviewed in the Council's previous report.

Since the claims of the Carnrick Company were not supported by any satisfactory evidence, no further investigation on the Council's part was necessary to warrant rejection of the product. The Council did not undertake to determine, for instance, whether or not Secretogen and similar products actually contain secretin, the determination of this point was immaterial here, in view of the conclusiveness of the evidence that secretin given by mouth has no physiologic action.

Since firms other than the G. W. Carnrick Company are manufacturing alleged secretin preparations, and since recommendations for the use of secretin preparations in gastro-intestinal diseases have even crept into textbooks, it seemed desirable to obtain further information on certain points. The Council therefore requested Prof. A. J. Carlson of the University of Chicago to check the results of previous investigators with regard to the action of secretin administered by mouth or directly into the intestine, and, in addition, to investigate the secretin content of certain alleged secretin preparations.

Carlson and his co-workers, like all previous investigators, found that secretin given by the mouth, or introduced even in enormous doses directly into the intestine, is entirely inactive. They also found that marked destruction of secretin followed contact for one minute with human gastric juice and that secretin is rapidly oxidized and rendered inert in contact with the air.

Further, they were unable to demonstrate the presence of secretin in samples of Secretogen and another supposed secretin preparation (Duodenin) bought on the open market. In the case of Secretogen there was one exception: one bottle was found which contained a little secretin, but it was necessary to administer (by intravenous injection, of course) *the entire contents of the bottle (100 tablets)* to obtain "a small but unmistakable secretin reaction."

In these studies the methods employed were those by which secretin was discovered. It is only by the use of such methods that the presence or absence of secretin can be determined. Apparently the manufacturers who place so-called secretin preparations on the market do not make use of these methods, by which alone even the composition of their products can be determined.

Carlson and his collaborators conclude:

"There is as yet no reliable evidence that lack of secretin is a primary or important factor in any disease. Even should this be established, secretin therapy, to be effective, must be intravenous. Secretin has not yet been prepared in sufficiently pure state to render possible intravenous injection in man without injurious effects. And even when this is attained, the very fleeting action of secretin will in all probability render secretin therapy as futile in all the diseases in which it is theoretically indicated as epinephrin therapy is in Addison's disease."

In short, secretin is as ineffective taken by mouth as it would be rubbed on the skin.

The referee recommends that the work of Professor Carlson be endorsed.

---

[1] Secretogen, The Journal A. M. A., May 1, 1915, p. 1518.

[2] Carlson, Lebensohn and Pearlmann: Has Secretin a Therapeutic Value? The Journal A. M. A., this issue, p. 178.

Correspondence

Drainage of Small Abscesses—Pneumatic Band as a Tourniquet

To the Editor:—Two little details of technic are perhaps too trivial to report, and quite likely have been used by others. I make no claim for originality beyond the fact that I have never happened to see them used elsewhere, and I have found them as satisfactory as they are simple.

Many small abscesses are hard to drain, on account of the tendency of the incision to make valvular closure. This is particularly true in the palmar and plantar regions, in which drainage in the ordinary method, in order to be effectual, may be painful. Here, I cut out a wide elliptic piece of integument, making its width vary somewhat with its thickness. I thus produce an opening which *cannot possibly close until it fills up from the bottom*, making drainage easy, and often unnecessary.

Since the use of a wide pneumatic band with the sphygmomanometer has become general, and I have noticed the ease and precision with which the arterial pressure may be regulated, I have used one of those bands as a tourniquet on the thigh and arm in amputations and other operations. The result is ideal. With no confusion to the external coverings, an assistant, with a light turn of the screw or a slight pressure on the bulb, can maintain just exactly enough pressure to produce hemostasis, and no more. No injury is done to the large vessels, and during ligation the pressure may be alternately raised and lowered, so as to give perfect control.

Augustin A. Crane, M.D., Waterbury, Conn.

Queries and Minor Notes

Anonymous Communications and queries on postal cards will not be noticed Every letter must contain the writer's name and address, but these will be omitted, on request

COFFEE AND COFFEE SUBSTITUTES

To the Editor —Many substitutes for coffee are being advertised among which are Vacuum Improved Coffee Kaffee Hag" Postum and Monco" In what way do these differ from ordinary coffee? Please do not use my name Enquirer Columbus Ohio

Answer —The extensive advertising of a certain coffee substitute opened the market for various forms of coffee and coffee substitutes Each promoting concern in its own interest attempts to create a prejudice against ordinary coffee Of the actual chemical constitution of coffee we know little Ordinary coffee is made by subjecting the green bean to heat in a rotating cylinder, until the bean has been browned to the right color This process is one of destructive distillation That is the oils (aroma) etc are formed as a result of the breaking up of organic substances at a high temperature Some of these oils are retained in the bean while a portion of the oils and a portion of the caffein are volatilized and escape. The amount of organic matter lost in the process of roasting is about 10 per cent

'Vacuum Improved Coffee" is said to differ from ordinary coffee in that the bean is first subjected to the action of superheated steam, and then placed in a vacuum The steam swells the grain and causes hydrolysis of some of the complex organic compounds Immediately following this the bean is subjected to negative pressure (a so-called vacuum) which removes some of the products of hydrolysis, notably furfurol The caffein it is claimed is not removed This preliminary treatment permits the roasting (during which process the aromatic oils are formed) to be done at a lower temperature than is ordinarily the case This method is supposed to enhance the flavor and lessen the astringency The question of the relative toxicity in comparison to ordinary coffee has not been scientifically investigated The caffein content is practically the same as in ordinary coffee

'Kaffee Hag" is a so called 'decaffeinated coffee." It is claimed to contain only 5 per cent of the *original* amount of caffein, but otherwise to be the same as ordinary coffee The processes of making both Kaffee Hag" and Vacuum Improved Coffee" *are patented*

'Postum" or 'Postum Cereal" is a "coffee substitute" It contains no alkaloids According to a pamphlet issued by *Collier's* it is stated to be 'made from roasted and ground bran, wheat and molasses — mostly bran" Exaggerated claims have been made for the product

Monco" is another so-called coffee substitute" According to information which has come to us it is prepared from French chicory and roasted grains and vegetables (such as carrots, sweet potatoes barley and rye) Tests made in the laboratory of the American Medical Association demonstrated the absence of caffein

THE TOXICITY OF METHYL ALCOHOL

To the Editor —Will you inform me what is the poisonous element in wood alcohol? I have seen many cautions as to its use and its dangerous elements but never as to the poisonous one I have used much of it in an alcohol stove for sterilizing instruments and heating water and have never had any ill effects Is there harm in using it in this way? Can the open flame be deleterious?

A I Lawbaugh M D Calumet, Mich

Answer —In the past, opinion has been divided as to the cause of the toxic effects produced by the ingestion of methyl alcohol Some have held that these toxic effects were due to some of the contaminations, such as acetone, which are almost always present except in highly refined products, rather than to the methyl alcohol itself The known facts with regard to this substance, however indicate that it is in itself a highly toxic agent The end-product of its combustion in the body (formic acid) is also toxic Ordinary grain spirit or ethyl alcohol when taken in small quantities is largely burnt up in the body to carbon dioxid and water and the unburnt excess is eliminated through the kidneys and the respiratory exchange. Methyl alcohol, on the contrary, is incompletely burnt up to the irritating formic acid (Pohl *Arch f exper Path u Pharmakol*, 1893, xxxi, 281, editorial, The Journal, Nov 30, 1912, p 1974) The unburnt residue after a moderate dosage may not be completely eliminated after two days (Voltz and Dietrich *Biochem Ztschr* 1912, xl, 15, editorial, The Journal, July 20, 1912, p 200) This accumulation of methyl alcohol in the system and its slow elimination possibly constitute the reasons for the special toxicity of methyl alcohol This applies especially when methyl alcohol is given in repeated small doses A single large dose of methyl alcohol may be less toxic than a similar dose of ethyl alcohol Except in cases of idiosyncrasy the superior toxicity of methyl alcohol is manifest chiefly under chronic conditions

There is no reason to believe that methyl alcohol as a fuel possesses any special dangers or disadvantages The products of its complete combustion are the same as those of the combustion of ethyl alcohol, namely, water and carbon dioxid

VALUE OF ROUTINE FUMIGATION

To the Editor —During a recent epidemic of scarlatina in this vicinity a number of the B & B Solidified Formaldehyde fumigators were used These apparently gave satisfactory results as there have been no infections from the places where they were used I am writing to ask whether or not these are considered efficient? I consider them more efficient than the so-called sheet method recommended by the state board of health

This epidemic was among the schoolchildren at this place and some of them became sick at the schoolhouse The schoolhouse was not fumigated I maintain that it should have been, and so expressed my opinion but as I am not the health officer I did not try to enforce my ideas

Will you kindly furnish me information along these lines?

M B Galloway M D South English, Iowa

Answer —The value of routine fumigation of rooms as a means for preventing the spread of infectious diseases has been seriously questioned of late years The experience of the health authorities at Providence, R I, extending over many years, indicates that the abandonment of room disinfection is not followed by any noticeable increase in the number of secondary cases In New York City, terminal disinfection has been omitted since 1913 in cases of scarlet fever and several other diseases Milwaukee, Boston and other cities have followed the example set by the authorities of Providence and New York, and in no case has there been evidence of the increase of diseases like diphtheria, measles and scarlet fever in consequence of the discontinuance of room fumigation New York City has now adopted a definite program for study in this field, and the results, when available, will constitute an important contribution to this question of public health administration

POISONING FROM INHALATION OF BENZIN

To the Editor —I have a patient who now has to work in a room 20 by 100 in which he is exposed to the fumes and vapors of benzin for eight hours each day It seems to affect him as follows After getting to work he begins to get drowsy head begins to swim and begins to feel light and he gets dizzy This effect is slight at first but gets increasingly worse and soon the muscles of his arms feel tired and all in and gradually his legs become affected He soon has some difficulty in breathing and if he goes to the open air as he occasionally does he falls to the ground his legs giving way and he feels giggly and foolish He has no desire for food always feels tired and drowsy, though unable to sleep well, feels thirsty and has a desire to void frequently passing urine that is strongly odorous of benzin He looks haggard and worn Please let me know how deleterious to health this apparent benzin poisoning is how to prevent it and how to rid the system of it

H I B

Answer.—Few textbooks discuss benzin poisoning probably because it has been infrequent until comparatively recently Holland ("Medical Chemistry and Toxicology," Ed 3, p 380) mentions general debility, palpitation of the heart, staring eyes, hallucinations cough and chronic bronchitis as among the effects produced on workers in oil refineries and rubber factories by inhalation of benzin Oliver ("Dangerous Trades," 1902, p 492) says that women are more susceptible than men Fatal cases are said to be rare Persons vary in susceptibility to the toxic effects of benzin The only means of prevention that have been suggested are ventilation of the workrooms and for susceptible persons, change of employment The system rids itself of benzin through the lungs, hence persons affected should be given fresh air

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Iowa Des Moines, Feb 8 10 Sec., Dr G H Sumner, State House, Des Moines

Kansas Topeka, Feb 8 Sec., Dr H A Dykes, Lebanon

New York Albany, Buffalo, New York and Syracuse, Jan 25 23 Chief, Examinations Division, Mr Harlan H Horner, State Education Bldg, Albany

Pennsylvania Philadelphia, Jan 18 20 Sec, Mr Nathan C Schaeffer, Harrisburg

Vermont Montpelier, Feb 8 11 Sec., Dr W Scott Nay, Underhill

Louisiana June Report

Dr E L Leckert, secretary of the Louisiana State Board of Medical Examiners, reports the written examination held at New Orleans, June 3-5, 1915 The total number of subjects examined in was 11, total number of questions asked, 100, percentage required to pass, 75 The total number of candidates examined was 57, of whom 41 passed and 16 failed Two candidates were licensed through reciprocity The following colleges were represented

PASSED College	Year Grad	Per Cent.
Howard University	(1914)	81 1
Tulane University of Louisiana		(1914) 83 5, 86 3 (1915) 76 1, 76 3, 76 5 77 4, 78 2 78 7, 79 5, 80 3, 80 4, 80 6, 81 6 81 8, 82 1, 82 1 82 2, 83 2, 83 2, 83 3, 83 4, 83 5, 83 7, 83 7, 83 9, 84 3, 84 5, 84 6, 85 7, 85 8, 85 8, 86 2, 86 3, 86 6, 86 9, 87 2, 87 7, 87 9, 88 1
Meharry Medical College	(1915)	77

FAILED		
University of Alabama	(1912)	69 6
Howard University	(1912)	77 4*
Atlanta College of Physicians and Surgeons	(1913)	58 3
Atlanta School of Medicine	(1911)	75 4*
Chicago College of Medicine and Surgery	(1915)	78 7*
Tulane University of Louisiana		(1915) 73 9, 75*, 76 7*
Meharry Medical College	(1912)	59 9
Memphis Hospital Medical College	(1912)	74 3
University of Tennessee		(1900)†, (1913) 61 9, (1914) 64 6, 68 8, 76 6*
College of Physicians and Surgeons, Dallas	(1907)	57 1

LICENSED THROUGH RECIPROCITY College	Year Grad	Reciprocity with
Rush Medical College	(1906)	Illinois
University of Louisville	(1913)	Kentucky

* Fell below the required average in one subject

† Examination incomplete

The following questions were asked

CHEMISTRY

1 What are the properties of urea? 2 How would you test for urea in the urine? 3 (*a*) What are the leukomains or purin bodies? (*b*) Name some of them 4 What are the principal globulins *and what part* do they play in the coagulation of the blood? 5 (*a*) What are amido acids, (*b*) Name the most important one of them 6 In what form, and in what manner, does arsenic prove poisonous? 7 What does hydrogen sulphid form with metals? 8 Where, and how does hydrogen sulphid form in the body? 9 What boron compound is of medical interest, and what are its chemical properties? 10 (*a*) What is hydrocyanic acid? (*b*) What is the toxic effect of this acid?

ANATOMY

1 Describe the occipital bone 2 Name the principal ligaments of the hip joint 3 Give origin and insertion of trapezius omohyoid tibialis anticus transversalis and pronator quadratus 4 Name the principal *muscles of respiration* Give origin and insertion of any two 5 Describe the spleen 6 Name the abdominal viscera (*a*) completely covered by *peritoneum* (*b*) partially covered by peritoneum 7 Give the histology of a hepatic lobule 8 Give origin *and distribution of* great sciatic nerve 9 Name and give location of the principal glands *of* the small intestine 10 What arteries form the circle of Willis?

PHYSIOLOGY

1 (*a*) What are the essentials for the clotting of blood? (*b*) Describe the process of coagulation 2 (*a*) Where is lymph formed? (*b*) What is the difference between lymph and serum? 3 *Describe* what is meant by internal respiration 4 (*a*) Where is the respiratory center situated? (*b*) What phenomena occur in a division of the spinal cord above the phrenic nerve? (*c*) What occurs if the cord is divided below the phrenic nerve? 5 Where and how is bread, where and how is butter digested? 6 Name the secretory nerve of the stomach, what result follows its stimulation by *the presence of* food in the stomach? 7 Compare *the effect of dividing the* renal nerve with that of stimulating them (*a*) in regard to the blood supply, and (*b*) *with* reference to the secretion of urine 8 What is the function of the third cranial nerve? State what muscles are innervated by it. 9 What are the functions of the cerebellum? 10 What are the constituents of the pancreatic fluid, and what part does each play in digestion?

MATERIA MEDICA

1 Name three vermicides Give dose and state for which variety of worms used 2 Diphtheria antitoxin How prepared? Define unit Give immunizing and curative doses for a child 3 years old 3 Name the digitalis group In what condition of the heart are the digitalis bodies especially indicated? 4 What is posology? Define Cowling s rule Give an example using Cowling's rule 5 Give *the difference* between an irritant and counterirritant. 6 Give *symptoms* of carbolic acid poisoning occurring by absorption 7 Give physiologic action of chloral 8 Give an example of a pharmaceutic *incompatibility* and a therapeutic incompatibility 9 Give dose and usages of ricini oleum 10 Give antidote, incompatibility and usages of argenti nitras

GYNECOLOGY

1 How would you prepare a woman for a pelvic examination? Give also the various manipulations employed in the examination 2 Under what conditions is the Sims speculum of decided advantage? 3 What changes may salpingitis undergo? 4 In what way does the tubercle bacillus find its way to the tube in a case of *primary* and secondary tuberculosis of the fallopian tube? 5 What are the terminations of a tubal gestation? 6 Give causes and treatment of sterility 7 How would you diagnose a case of coccygodynia? 8 Name the various urinary fistulas 9 Describe clinically and pathologically three types of endometritis 10 What pathologic conditions demand hysterectomy?

SURGERY

1 Give symptoms of fracture of the base of skull. 2 What is cholelithiasis? How would you diagnose the condition? 3 Differentiate between obstruction of the common and cystic duct 4 Describe the operation of phlebotomy 5 Define a hematoma, a thrombus, a phlegmon, a furuncle, an embolus 6 Give *symptoms and treatment of mastoiditis* 7 *How* would you diagnose glaucoma? 8 What is *hyperthyroidism? Give symptoms* 9 *Give signs* and symptoms of popliteal aneurysm 10 Name four complications liable to occur in a male suffering from gonorrhea

PATHOLOGY

1 Give the pathology of peptic ulcers Where are the most unfavorable ulcerations situated? 2 What is the most common form of tumor of the brain? From where does it usually arise? 3 Define edema, giving clinical causes for same. 4 In carcinoma of the female breast describe the gross and the microscopic appearance of a common variety, and give the usual points of metastasis 5 Name four diseases in which the relative *number of* leukocytes are increased, and four in which they remain stationary or decreased 6 Locate and describe the changes in the brain in bulbar paralysis, and describe the effect on other parts of the body 7 Explain briefly *the pathology of both lobar and lobular* pneumonia 8 What are the conditions predisposing to intestinal stasis? 9 Give the pathology of osteomyelitis Where does it usually begin? 10 By what are malignant tumors characterized?

OBSTETRICS

1 (*a*) What structures enter into the formation of the pelvic floor, (*b*) how *protect same during labor?* 2 Name the bones, divisions straits and symphyses of the obstetric pelvis 3 What symptoms and signs would be suggestive of a pregnancy of two *months duration in* a primipara? 4 What are the causes of dystocia occurring respectively in the uterus, vagina, pelvis and vulva? 5 A primipara fourth day after full term delivery, evidence of uterine infection, no hemorrhage, retained ovular remnants suspected What would be the treatment? 6 (*a*) Define presentation, position and posture (*b*) What causes may modify each and cause an abnormal labor? 7 What injuries may occur *in the birth canal incident to labor?* How and when are they best discovered and how should they be treated? 8 (*a*) What are the causes of hemorrhage before and after *labor?* (*b*) *Treat in detail one* of the conditions mentioned 9 (*a*) What are the symptoms of impending eclampsia? (*b*) Treatment. (*c*) The treatment, should convulsions ensue? 10 State the management of posterior positions of vertex presentations

PHYSICAL DIAGNOSIS — THEORY AND PRACTICE OF MEDICINE

1 (*a*) *In estimating the various percussion sounds,* what elements are to be considered? (*b*) What are the attributes of percussion elicited over an air containing viscus? (*c*) Over an airless viscus? 2 Describe four of the principal heart murmurs, stating the lesion, the area of maximum intensity, the rhythm the area of audition, and *the direction* of transmission of each 3 What are the *characteristics of accidental* (hemic) murmurs? 4 What are the evidences of impending death? 5 (*a*) Name the various diseases associated with gross splenic enlargement (*b*) differentiate any two of the diseases mentioned 6 Show the differential features between chronic parenchymatous nephritis and chronic interstitial nephritis. 7 State the symptoms and early diagnosis of hip joint disease 8 Summarize the diagnosis of gastric carcinoma 9 (*a*) What is the period of incubation and the character of the rash of scarlatina? (*b*) What are the frequent complications *and sequelae?* 10 Treat a case of pellagra

HYGIENE

1 Name the sources of impurities in the air 2 The parasitic diseases due to meat are caused by what organisms? 3 What are the causes of the unfitness of meat as food? 4 What should be the specific gravity of cow's milk for human consumption and how is it rendered higher or lower in gravity? 5 What bacteria are capable of *producing chemical* changes *in milk?* 6 *Upon* what factors does the hygienic *importance* of waste matter depend? 7 What are the most dangerous elements of all waste matter? 8 What are the *objections* to sea disposal of sewage? 9 What pathogenic bacteria may be found in water? 10 Name some of the trade infections, and state how they can be *reduced or prevented*

California July Report

Dr Charles B Pinkham, secretary of the Board of Medical Examiners of the State of California, reports the written examination held at Los Angeles, July 12-16, 1915 The total number of subjects examined in was 9, total number of questions asked, 90, percentage required to pass, 75 The total number of candidates examined was 84, of whom 57 passed, including 7 osteopaths and 3 drugless practitioners, and 27 failed, including 10 osteopaths and 6 drugless practitioners Twenty-two candidates were licensed through reciprocity The following colleges were represented

PASSED

College	Year Grad	Per Cent
California Eclectic Medical College	(1915) 76 8, 77, 79 9,	88 1
College of Medical Evangelists	(1914) 76 5 86 9 (1915) 76 5 79 4 82 3 86 1 86 3, 87 7,	87 8
College of Physicians and Surgeons Los Angeles	(1914) 80 3, 80 8 (1915) 77 9 81 9 82 4 82 9, 83, 83 2 85 8 87, 87 87 4, 87 4, 87 4 88 5 88 9 89 3, 89 4 90 7 90 9	85 8 91 4
Hahnemann Medical College of the Pacific	(1915)	82 5
Oakland College of Physicians and Surgeons	(1915) 81 1 81 4,	81 4
Northwestern University	(1914)	89 5
Barnes Medical College	(1911)	75 1
St Louis College of Physicians and Surgeons	(1910)	75
Columbia Univ, Coll of Phys and Surgs	(1911)	90 1
Cornell University	(1915)	92 5
New York Homeo Med Coll and Flower Hosp	(1913)	96 2
Jefferson Medical College	(1915)	81 5
Woman's Medical College of Pennsylvania	(1913)	87 3

FAILED

College	Year Grad	Per Cent
California Eclectic Medical College	(1914) 71 3 (1915) 55 8 56 2 62 4,	71 3
College of Phys and Surgs Los Angeles	(1914)	72 5
Atlanta School of Medicine	(1907)	35
Tufts College Medical School	(1903)	63 2
Meharry Medical College	(1913)	37 9
Vanderbilt University	(1889)	40
University of Toronto	(1870)	66

LICENSED THROUGH RECIPROCITY

College	Year Grad	Reciprocity with
Cross Medical College	(1900)	Nebraska
Yale University	(1900)	Connecticut
College of Phys. and Surgs Chicago (1898) Iowa	(1904)	Illinois
Dunham Medical College, Chicago	(1900)	Illinois
National Medical University, Chicago	(1897)	Illinois
Rush Medical College	(1900 2)	Illinois
Keokuk Medical Coll Coll of Phys. and Surgs	(1908)	Nevada
University of Maryland	(1868)	Georgia
Detroit College of Medicine	(1898)	Washington
University of Michigan Medical School	(1894)	Michigan
University of Mich Homeo Med School	(1886)	Michigan
Eclectic Medical College Cincinnati (1873) Ohio (1880) Indiana (1886) Ohio	(1889)	Tennessee
Homeopathic Hospital College, Cleveland	(1893)	Ohio
Medical College of Ohio	(1892)	Illinois
Homeopathic Medical College of Pennsylvania	(1881)	Iowa
Western Pennsylvania Medical College	(1897)	Penna
University of Vermont	(1896)	R Island

* Official information states that this candidate is not a graduate.

Oklahoma July Report

Dr Ralph V Smith, secretary of the Oklahoma State Board of Medical Examiners, reports the written examination held at Oklahoma City, July 13-14, 1915 The total number of subjects examined in was 10, total number of questions asked 100, percentage required to pass, 70 The total number of candidates examined was 30, of whom 22 passed and 8 failed Twenty-one candidates, including 1 osteopath, were licensed through reciprocity Two candidates were granted reregistration licenses The following colleges were represented

PASSED

College	Year Grad	Per Cent
Chicago College of Med and Surg	(1915) 75 5 77,	80 5
University of Illinois	(1915)	78
University of Louisville	(1915)	88
Ensworth Medical College	(1907)	83
Missouri Medical College	(1887)	73
Leonard Medical College	(1913)	74
University of Oklahoma	(1915) 76 79 81 3 82 5 83 83 5, 85 86 89 7	84 2
Meharry Medical College	(1909)	71 7
Baylor University	(1915) 86,	87
Southern Methodist University	(1915)	84 2

FAILED

College	Year Grad	Per Cent
University of Arkansas	(1912) 72* (1913)	74*
Chicago College of Medicine and Surgery	(1915)	75*
University of Oklahoma	(1915)	79*
Meharry Medical College	(1914)	54
University of Tennessee	(1914) 70 5* (1915)	78*, 81*

LICENSED THROUGH RECIPROCITY

College	Year Grad	Reciprocity with
University of Arkansas	(1914)	Arkansas
Atlanta College of Physicians and Surgeons	(1912)	Georgia
University of Louisville (1894) Tennessee	(1907)	Kentucky
College of Physicians and Surgeons Baltimore	(1893)	W Virginia
Eclectic Medical University	(1902)	Missouri
Northwestern Medical College St Joseph	(1893)	Kansas
Univ Med Coll Kansas City (1909) Tennessee	(1910)	Kansas
Washington University	(1910)	Missouri
Jefferson Medical College	(1886)	W Virginia
Meharry Medical College	(1903)	Arkansas
University of Nashville	(1905)	Arkansas
University of Tennessee (1895) Texas	(1907)	Tennessee
Vanderbilt University (1893) Arkansas	(1912)	Kentucky
Baylor University	(1913)	Texas
Dallas Medical College	(1902)	Texas
University College of Medicine Richmond	(1901)	W Virginia

* Fell below the required average in one or more subjects

Book Notices

Vagotonia A Clinical Study in Vegetative Neurology By Dr Hans Eppinger and Dr Leo Hess Authorized Translation by Drs Walter Max Kraus, A M, M D, and Smith Ely Jelliffe, M D, Ph D Paper Price, $1 Pp 93 Nervous and Mental Disease Monograph Series No 20 New York Nervous and Mental Disease Publishing Company, 1915

The authors attempt to reduce certain so-called neuroses of internal organs to a definite syndrome with a definite physiologic and pathologic etiology The physiologic and pharmacologic considerations which lead them to evolve the neurosis of the autonomic nervous system, vagotonia, are exceedingly interesting Even a synopsis of these would exceed the limits assigned to this review We cannot refrain, however from giving a summary of the authors' therapeutic observations The therapeutic measures are directed, they say, not against vagotonia as a constitutional condition, but against those symptoms of irritation in the autonomic system which may be considered as irritative states superimposed on the constitutional condition

> "Atropin is the best antidote for the spastic states It is of therapeutic as well as diagnostic value and should be tried in all diseases due to or associated with vagotonia It may be used to great advantage in bronchial asthma, in which small doses may be used without danger for many weeks It should be given in doses of 1 to 2 mg a day subcutaneously, which may be increased to 3 mg, after which the former dosage is resumed Vagotonic gastric disturbances gastric ulcer as well as gastric crises are benefited by the administration of atropin Likewise the gastric disturbances following the use of infusion of digitalis, certain cardiac disturbances, and the troublesome subjective symptoms of extrasystolic arrhythmias are ameliorated by the use of atropin"

The authors plead for a more extensive administration of atropin especially in those varied obscure and troublesome complaints which, owing to lack of anatomic basis, are called "nervous" If a patient suffering from vagotonia is not benefited by atropin or substances containing it, the reason may be that the dosage is too small The authors feel that atropin is only a substitute for some physiologic "atropin" which is circulating in the body The limitations of its use are that it does not affect all branches of the autonomic system equally, the pelvic nerve being but slightly affected The beneficial effect of epinephrin in many spastic states of the autonomic system (bronchial asthma, many forms of gallstone colic and diarrhea) is a good proof that both symptomatically and etiologically vagus paralysis and sympathetic stimulation are closely allied This certainly sounds like an optimistic expression of belief in a drug therapy based on a new medical conception of disease The authors seek the real causation of vagotonia in some disturbance of the internal secretions They state that not only has an insufficiency of the chromaffin system been proved to exist in certain types of endocrinopathic individuals, but also it has been shown that these individuals show anomalies in the lymphatic system Thus, they see a relationship between the vagotonic constitution and status thymicus, and further, they are convinced that vagotonia is the expression of an inferior constitutional make-up This research in so-called visceral neurology, which bids fair to become of practical value to the general practitioner, deserves careful study and reexamination We may, therefore, be thankful for the translation of what promises to become an oft-quoted work on vegetative neurology

The Medical Clinics of Chicago Paper Bi monthly Price $8 for 6 numbers. Philadelphia W B Saunders Company

These clinics are patterned after the Murphy Clinics, they differ from the latter in that this enterprise covers general medicine, and includes reports of clinics conducted by many men, whereas the others are the clinics of one man and are devoted to surgery Three numbers have already been issued, and the subjects discussed include general medicine, pediatrics, ophthalmology, neurology and dermatology They represent the clinics of ten physicians conducted in four different institutions, the chief of which is the Cook County

Hospital Naturally, the character of the clinics varies in some the men make their talks in brief, concise form, and give a clear conception of the cases, with emphasis on the important points connected with each, others are not so careful in the presentation of their cases From the former, of course, the reader gets a clear concept of the case, the latter, while not valueless, are not so practical as they otherwise might be Some have a tendency to the bizarre and picturesque, and the reader's attention is distracted by the emphasis laid on unimportant things In some of the clinics, questions and answers between the physician, the intern, the student and the patient seem to have taken up the greater portion of the time We see no reason why space should be occupied with what are, in some instances, trivialities This applies, however, in only two or three instances While the vast majority of the cases have been well selected, a few would seem to be of no value

There is an apparent lack of editorial revision If these clinics are to take the place which the publishers, editors and contributors desire they shall take, those responsible should remember that insignificant comments, absurd questions, and the use of ungrammatical language should be eliminated The foregoing criticisms are intended to be constructive, not destructive

This method of instruction has a distinct place in medical literature, and, on the whole, this series of clinics is a worthy exponent of its type, the general practitioner will find this series of decided practical value, full of instruction, elementary as well as technical

Medicolegal

Father-In-Law Not Liable for Medical Services

(Morse et al vs Friend (Colo), 149 Pac R 618)

The Supreme Court of Colorado says that this suit was instituted by Dr Friend on an account for professional services, judgment being obtained by him for $84 against both J W Morse and William Morse, father and son Both men had families and lived in separate dwellings during the period for which the services were rendered They were engaged in some sort of a business partnership under the firm name of J W Morse & Son Dr Friend had for several years prior been the family physician of J W Morse The services over which the dispute arose were rendered in the treatment of the wife of William Morse This was not at the instance or request of J W Morse The basis of the claim against J W Morse was proof that he had in other instances made payment to Dr Friend for services rendered to his children, including William Morse, and on a letter written by J W Morse to Dr Friend, which was in effect "Just received statement of William Morse account Please find enclosed check for $25 I can't spare any more at present I think your charges are rather high I have talked with M D s, and they say that fever cases generally are from $35 to $60 per case But I will do the best that I can You know that Will hasn't anything" The check referred to was signed J W Morse & Son, and drawn on the firm account This was not such a promise as is contemplated by the statute of frauds, requiring promises to answer for the debts of others to be in writing, etc, and the mere fact that J W Morse had paid former accounts did not create a liability Besides this, it appeared that the account was entered and rendered as against William Morse alone It appeared also that William Morse had, prior to payment made by his father, personally made a payment of $50 on the account by means of a check signed by him, as J W Morse & Son, and drawn on the firm account Furthermore, J W Morse had, after the services involved in this case were rendered, and before this suit was instituted, paid by him personal check to Dr Friend the sum of $120 50, and on the face of the check it was written "For professional services to date." This check was accepted and cashed by Dr Friend, who himself testified that he rendered no services for either of the Morses subsequent to the date of that check It was error to instruct the jury in effect that if it appeared that, at any time in years past, the plaintiff had served as a physician in the family of J W Morse, and that, in so doing, had attended some members of the family of William Morse, and that J W Morse had paid for such services, and if J W Morse had given the check for $25 above referred to, then the jury must find J W Morse liable Wherefore the judgment recovered as hereinbefore stated is reversed, with instruction to dismiss the case as to J W Morse, and to render judgment against William Morse for the amount so found by the jury to be due the plaintiff

What Constitutes Severance at "Joint"

(Newman vs Standard Accident Insurance Co (Mo), 177 S W R 803)

The Kansas City (Mo) Court of Appeals reverses a judgment obtained by the plaintiff on an accident policy of insurance which contained the provision "For the loss of thumb and index finger of either hand by severance at or above metacarpophalangeal joints, one third of the principal sum" of $7,500 While hunting, his gun had been discharged into his left hand so that it became necessary to amputate the thumb and the index finger The actual cutting, or severance, was through the bone of the thumb and finger two-eighths and three-eighths inch, respectively, below the articulation, or, to express it differently, below the point at which the ends of the bones in the body of the hand and in the thumb and finger came together It was far enough below to leave two stubs of the thumb and finger bones plainly to be seen in a roentgenogram taken of his hand, and plainly showing two ends or heads of the bones jointed together, the articulation not being disturbed in either the thumb or the finger The evidence also showed that the plaintiff could move, or work, these joints He claimed the right to recover one third of the principal sum under the clause quoted But the court holds that was a mistake In grading compensation to the character of the injury, the company had a right, the court says, to stipulate that the severance should be at the exact point specifically stipulated, before the sum named for that character of injury should be due The contract, in using the word "joint," fixed a place, a point, of severance It had no reference to the structures which must exist in order that a joint might be made The court does not mean to hold that for the severance to be "at the joint," within the meaning of the policy, it must follow and coincide with the line of articulation, but only that it must be such as destroyed the joint as a joint, that is, as an anatomic mechanism That is to say, the joint must be dismembered It was error to admit the testimony of surgeons, as experts, to prove the anatomic, or scientific, meaning of the word "joint" as applied to the finger, and that the amputation below the place of articulation was at the joint There was no ambiguity in the contract, and it was for the court, not the jury, to say what it meant

Liability of Surgeon for Burning of Patient During Operation

(Reeves vs Lutz (Mo), 177 S W R 764)

The St Louis Court of Appeals, on the second appeal of this case, reverses a judgment obtained by the defendant, who was sued for alleged malpractice when employed to remove a cancer from the breast of the plaintiff's wife The court says that the evidence was that the defendant personally adjusted a hot water bag between the lower limbs of the patient immediately before commencing the operation, and that the bag was permitted to remain there without examination for as much as an hour and a half or two hours, for the operation, which was an extensive one, consumed so much time As a result, one of the limbs was severely burned All the evidence was that it was a proper practice employed by the most enlightened members of the profession in the locality to use such hot water bags in like circumstances The hot water bag was wrapped with a towel, and the patient was clad with a cotton flannel garment to protect the skin at the time and such, too was the usual practice It appeared however, that the patient had varicose veins in the limb burned and the evidence was that they render one more liable to be burned than if not so afflicted, that the defendant knew of this condition and of the likelihood to enhanced susceptibility to burns from that cause Besides, there was evidence that the patient moved and kicked some, but no examination was made during the entire time as to whether the hot water bottle was disturbed in its position so as to injure her Then several expert witnesses were permitted to testify on behalf of the defendant that burns are frequently inflicted on patients during operations The court holds however that the questions and answers as framed were prejudicial, for they in no wise discriminated the case wherein a burn might have been inflicted through carelessness in which event liability to respond therefor would appear from one which occurred when ordinary care was exercised by a skilful surgeon as through unexpected movement of the patient during the operation which caused the burn and therefore could not have been obviated by due care, and on account of which no liability may be entailed The mere fact that all surgeons may be careless at times does not relieve another from performing his duties with due care in the particular case Four separate instructions given for the defendant iterated and reiterated the same proposition of law to the jury though in different phraseology, to the effect that the defendant was required to exercise only reasonable care that is such as an ordinarily skilful and careful surgeon is accustomed to exercise in like surgical operations under similar circumstances in the same locality and that he should be acquitted of fault if he did this The proposition of law was well enough, but, when coming from the court repeatedly in instructions on evidence tending to show that all surgeons frequently burned their patients in like cases it would seem to mislead the jury into believing that the defendant could not be required to respond, though remiss in the particular case, for his conduct was to be measured only by what such average physicians and surgeons usually do

Conditions Not Rendering City Liable for Typhoid Fever

(*City of Duncan vs Tidwell (Okla) 150 Pac R 112*)

The Supreme Court of Oklahoma reverses a judgment for $675 obtained by plaintiff Tidwell against the city of Duncan, as damages for typhoid fever suffered by members of his family and alleged to have been caused by the defendant's negligence in respect to the condition of its dumping ground which was on a lower plane and 1,940 feet southeast from the plaintiff's dwelling house, about 2½ miles northeast of the defendant city In this dumping ground it appeared that dead animals and human excrement, with other garbage, perhaps, were deposited in trenches 4 or 5 feet deep the dead animals being covered with dirt and the excretions with lime and, when the trenches were about full, with dirt, although more or less of both were sometimes exposed There was also some evidence tending to show an abundance of flies both at the dumping ground and at the plaintiff's house The court holds that, in the absence of evidence reasonably tending to exclude other sources from which the *Bacillus typhosus,* causing typhoid fever, might have been derived, or to show that such bacillus existed in any of the matter deposited in the defendant city s dumping ground, it could not be inferred that members of the plaintiff's family contracted said disease from said dumping ground, located as above stated, notwithstanding that the winds had blown from that direction toward the plaintiff s dwelling house, and that there was an unusually great number of flies at said ground and at said house during the summer preceding the attack of such fever The court says that it ventures no opinion on the question as to whether the jury might have found that flies or dust could have carried typhoid bacilli from the dumping ground to the plaintiff's dwelling house, or to any place where the afflicted persons were, but it contents itself with pointing out that there was no evidence reasonably tending to prove that they did so or that these grounds were the source from which the disease was contracted

Miscellany

A "Sonnet from the Portuguese"

Dr Ennes publishes a communication in the *Medicina Contemporanea* of Lisbon describing the exalted task of the physician and its importance to the community and to the individual 'No career is so high in its ideals and few require such preliminary training The medical career should ensure prosperity and security beyond all others It should, but it does not The practice of medicine is always the eternal surprise both in the evolution of the affections we are treating and in the behavior of the patients themselves The best physicians may fail to make a success of their career where mediocre ones succeed Aside from the principles of dignity and honor indispensable for all, success, in our profession, seems to be almost always a matter of chance" He cites a number of personal experiences showing the ways of successful Lisbon physicians now dead Dr Baldy always explained to the family after coming out of the patient's room, the nature of the disease the differential diagnosis and the reasons for the treatment instituted generally including a Latin quotation Dr Theotonio replied to questions by saying that he was due in his lecture room, but he would have leisure to answer questions between 10 and 11 at his office on Saturday and then took his leave with extreme deference Barral was most suave and tactful, and Bizarro gruff and morose, but the latter was the one called most in consultations All these men were eminent in medical practice in Lisbon for years with their widely differing clinical technic, showing that the favor of public opinion is not a thermometer of anything in the medical career "The physician has to steer between Scylla and Charybdis If his wife makes no calls people say she is haughty, if she makes calls, that she is drumming up trade for her husband If he writes many prescriptions they say he is in league with the druggist, if not that he does not study his patient's case enough If he goes into politics, they say he had better stick to his profession, if he keeps out of politics, they say it is from lack of public spirit and culture If he repeats his visit to the patient it is to run up a bigger bill, if he does not call again he is neglecting his patient When he renders his bill, the total is always denounced as too high When he asks for a consultation, the public says that this proves his incompetency, when he does not call for a consultation, they say it is because he does not care to display his ignorance to his colleagues When the patient gets well he ascribes his recovery to Nature, but, if he dies, the family denounce the physician" Ennes concludes with the exclamation that even with all these drawbacks and the overcrowding of its ranks yet he can enthusiastically declare that the medical profession is the most beautiful of all "Quem não querera ser medico!"

Overcrowding Building Space

John Ihlder field secretary of the National Association on City Housing, says that the tendency to build tenements in cities up in the air instead of spreading them out on the ground really only offers temporary profit to those who sell or rent. It raises values in a restricted area by preventing those values from being spread over a larger area, and constitutes really a false basis of economy As items of this false economy he mentions more rapid depreciation and extra cost for maintenance To this must be added on the part of the community all the cost for increased sickness, inefficiency and immorality, for hospitals, charity and police. He gives it as his experience in studying the question of housing in the various cities and the tendency to overcrowd the building space, that when he went into a city where the rule was widely spaced, single family cottages, he found the real estate men saying that they could make no money by following the rule, that they must put their cottages closer together or even build terraces In a city where the terraces had developed into the row-houses, as in Philadelphia, he found them arguing for two-family houses Where two-family houses had been the rule, as in large areas of Brooklyn, he found them arguing for the three-family house, and so on, until in Manhattan, where the six-story row-tenement is the standard, he found them arguing for weaker regulations, which would permit them to build higher and to fill their lots more completely To a question asked a real estate man in Manhattan as to whether there was any stopping point short of one solid building filled with dark rooms, in which people would die as fast as they could move in, and so establish an equilibrium, he received no answer In Philadelphia, where he asked the same question, a real estate man replied that the trouble was due to the failure to realize that there is just as great if not greater profit to be made by building a city out as by building it up Ihlder says that perhaps therein lies the secret—provision of space may be made to run with, and not against, profit The question of profit to the real estate owner seems to be still the chief consideration Ihlder says that the extra profit from building up is only temporary, because as soon as new values are established, he must again build higher in order to conserve or increase his profits All that is permanent under this procedure is a lower standard for the city's housing

Digestibility of Animal Fats

In Bulletin 310 of the United States Department of Agriculture, C F Langworthy and A D Holmes give the history and results of some experiments on the digestibility of lard, beef fat, mutton fat and butter It is said that, notwithstanding that fats as sources of energy are from two to four times as effective as either proteins or carbohydrates, their use in diet has received less attention from investigators than other nutrients, that it has been taken for granted that favorable combinations of fat are thoroughly assimilated, and that they do not differ much in their digestibility These experiments were undertaken, therefore, to determine the thoroughness of digestion of fats, the specific dynamic effect of diet rich in fats of different kinds, the relation of availability to total energy value of fats, and the relation of domestic ways of using fat to the quality of foods In these experiments the fats were incorporated in cornstarch pudding, which was carefully colored and flavored so that the fatty odors and flavors of the different varieties of fats were disguised, and the healthy medical and dental students, between 20 and 30 years of age, employed in the experiments were not apprised of what they were eating, in this way, any possible psychic effect was eliminated It was found desirable to incorporate the food containing the fat in a simple mixed diet, as the ordinary individual soon tires of any single food In these mixed diets were included a commercial wheat biscuit, fruit, tea or coffee and a little sugar Each test period included three days, for nine meals, a period which it was found was long enough for the purpose but not of sufficient duration to make the diet distasteful The ration was served for one test period in each week followed by a rest of four days, during which the subjects lived on the ordinary mixed diet Data were recorded with reference to the physical condition of the students both before and after the experimental periods The amounts and kinds of foods eaten during each three-day experimental period and the total quantity of feces were recorded and samples of both food and feces were analyzed to determine the quantity of protein, fat, carbohydrate and mineral matter retained and assimilated by the body

Results with the different fats employed may be summarized as follows The coefficients of digestibility, making allowance for metabolic products extracted from the feces in addition to the fat eliminated, were, for lard, 97 3 per cent , for beef fat, 93 1 per cent , from mutton fat, 87 6 per cent , for butter, 97 1 per cent The average energy value available per man per day, as calculated by the usual factors, was 2,235 calories for lard, 2,730 calories for beef fat, 2,145 calories for mutton fat and 2,420 calories for butter These values, it is said, might be insufficient for severe muscular activity, but would meet the needs of persons following sedentary occupations The average coefficients of availability of energy for the total ration including the fats named were, respectively, lard, 93 per cent , beef fat, 92 7 per cent , mutton fat, 91 5 per cent , butter, 93 9 per cent These values, it is said, are somewhat higher than the 91 per cent which has been found to represent the coefficient availability for the ordinary mixed diet It is concluded, therefore, that the different fats did not exercise any unusual effect on the digestibility of the other constituents of the rations It was also found that fats of low melting point are more capable of complete assimilation than those of a high melting point, and that fats differ in their melting point according to the portion of the body from which they are taken In the experiments when the amount of beef fat was 140 grams or over, a laxative effect was experienced which disappeared when the amount was decreased This result was not noted with the other fats, and it was thought that this indicates a higher limit of tolerance for the other fats The experiments also indicate that, contrary to popular belief, lard is not less digestible than other fats

Society Proceedings

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION

Twenty Eighth Annual Meeting, held at Cincinnati, Dec 13 15, 1915

(Concluded from page 143)

Treatment of Lymphosarcoma with Radium

Dr Howard A Kelly and Dr Curtis F Burnam, Baltimore Lymphosarcoma begins as a local infection, and, growing more or less rapidly metastasizes, finally invading the lymphatic system, and invariably causing death in from several months to a couple of years It is beyond the reach of surgical relief

We have had a series of twenty cases, all but two identified by a microscopic examination of the tissues Most of the patients were in an extremely advanced stage of the disease. Twelve had been operated on, and these with one exception had rapidly recurring masses in the neck Out of this group of twenty, thirteen, or 65 per cent., are apparently cured Six patients have died of the disease Five of this group had been operated on, and all were advanced cases but one On the basis of this experience we believe that lymphosarcoma ought not be operated on, but should be subjected to radium therapy at the earliest possible moment The results improve if the cases are obtained early The amount of radium used varied While in the early cases the diseased area alone was treated, in the later cases the entire lymphatic system of the neck, axillae and torso were included There were several instances of primary extensive lymphosarcoma of the mediastinum These responded as readily as those more superficially placed

Conservative Pelvic Surgery

Dr Floyd W McRae, Atlanta, Ga I have done conservative operations on 338 women I have been able to get reports to date from only ninety-three, thirty-two of whom have reported pregnancies Practically all have gone to full term and been delivered of healthy children One woman has had three children, another two, and another has had three or more induced abortions Another was delivered of a living child by cesarean section on account of uremic convulsions Both mother and child are now in good health Of the 338 women, seventeen have had subsequent operations done I have included in this record only the women whose pelvic organs were left in a state compatible with possible future pregnancies It does not include women whose tubes or uteri were removed, or in whose cases partial hysterectomies were performed precluding pregnancy I have resected cystic ovaries, preserving all healthy stroma, suturing accurately with fine catgut I have endeavored to separate adhesions, embedded ovaries and tubes in such a way as to leave the least possible area of raw surface, hanging up prolapsed ovaries, plicating the ligaments, and so readjusting uterus, tubes and ovaries as to approach as nearly as possible the normal arrangement A very large majority of these women have been relieved of their suffering and restored to healthful womanhood

Cholecystostomy Versus Cholecystectomy

Dr Charles H Mayo, Rochester, Minn That there is still an opportunity for improvement in the treatment of gallbladder and gallduct disease is shown by the fact that of 370 patients seen during July, August, September and October, 1915 forty-eight had been previously operated on some of them twice, for the same disease The mode of infection is still under discussion The experimental researches of Rosenow, however have proved that the more common method of invasion is by bacteria conveyed through the general circulation Cholecystostomy and the removal of stones cure symptoms of mechanical obstruction Cholecystostomy does not cure chronic cholecystitis and cannot restore the destroyed walls of the gallbladder or free the gallbladder from adhesions For these and for all cases in which infection is the major feature either with or without stones, cholecystectomy is the better method of treatment In large groups of cases the mortality will be lower than that which follows cholecystostomy Chronic pancreatitis with gastric symptoms may persist following cholecystectomy

Advantage of Separate Suture of the Mucous Membrane in Gastric Surgery

Dr. Richard A Barr, Nashville Tenn It is very easy to divide the peritoneum and the muscle down to the submucosa and to separate them from it without cutting through In the region of the pylorus a submuscular resection of the submucous and mucous coats may be made with less technical difficulty than is encountered in doing a pylorectomy and in many cases serves much the same purpose In pylorectomy and partial gastrectomy, division down to the submucosa and suture of this structure and the mucosa before dividing them prevents soiling, give very satisfactory control of hemorrhage, and the completed suture line is much less rigid and less thick than that obtained by the usual method

Moschcowitz's Operation by the Inguinal Route for Femoral Hernia

Dr J D S Davis, Birmingham, Ala If the same precautions are resorted to in femoral hernia that are utilized in inguinal hernia (high ligature of sac, secure closure of the internal ring from above, and aseptic wound healing) relapse would be as rare as in inguinal hernia The inguinal route of approach renders resection and anastomosis a very easy procedure compared to a resection in an operation by the crural route The supplementary abdominal incisions so often necessary in resection when the crural operation is made need not for a moment even be considered when the inguinal operation is made. When femoral hernia is attacked by a high incision (inguinal route), anatomic exposure of the femoral ring can be made from above, bringing into view Cooper's ligament, which is utilized in the closure of the ring The skin incision is not unlike that made for the Bassini operation except when the sac is found adherent, when the incision may be extended down into the thigh so as to give room for extirpation of the sac

A Clinical and Experimental Study of Postoperative Ventral Hernia

Dr Willard Bartlett, St Louis The causes of postoperative ventral hernia are incisions in defiance of anatomic and physiologic principles, improper wound closure, needless drainage and tamponade, postoperative increased intra-abdominal pressure and wound infection Experiments on dogs produce no sign of hernia when one layer is preserved In the human subject the hernial tendency is corrected preoperatively by reducing intra-abdominal fat and intestinal contents with rest in bed, liquid diet and free catharsis The best postoperative procedure leaves the sac intact, utilizing the sac wall and scar tissue, but if necessary, the abdominal contents may be reduced If there is undue tension on the reconstructed wall, or interference with the movements of the lower ribs, failure is sure The after-treatment is of vital importance, dealing chiefly with meteorism or straining of any kind

DISCUSSION

Dr John Young Brown, St Louis I have had occasion to do the operation described by Dr Davis once and I agree with him fully that it does away with the necessity of a supplementary abdominal incision

Dr J Garland Sherrill, Louisville, Ky One point which I should like to emphasize as perhaps explaining the causation of postoperative hernia is interference with the nerve supply of the abdominal wall In primary operations we should always avoid, as far as possible, damaging the nerve trunks because muscle or fascia that is not supplied with nerve force will always be weak About ten years ago I began the treatment of cases of strangulated femoral hernia according to the plan described and proposed by Dr Davis and I have found it to be exceedingly valuable

Dr Charles H Mayo, Rochester, Minn The point brought out by Dr Davis regarding the cure of femoral hernia by the inguinal route is very important in certain cases of strangulation, still the old methods of treatment of femoral hernia are successful

Adenomyoma of Round Ligament and Incarcerated Omentum in all Inguinal Hernias Forming One Tumor

Dr. Thomas S Cullen, Baltimore The patient, a woman aged 43 complained of a lump in her groin for several years It was very firm and appeared to be cystic It was about 4 cm long 2 cm broad and somewhat lobulated She also complained of pain in the appendical region I found the rectum firmly adherent to the left ovary over a considerable area The omentum passed down through the hernial opening near the right internal inguinal ring, and then directly out into the adipose tissue of the anterior abdominal wall The tumor consisted of numerous cysts, some filled with clear colored contents, others with slightly turbid fluid, and quite a number with chocolate-colored fluid, strongly suggesting adenomyoma

Unilateral Hematuria Associated with Fibrosis and Multiple Microscopic Calculi of the Renal Papillae

Dr R L Payne, Jr., Norfolk, Va I wish to report a case of symptomless unilateral hematuria in which bisection of the kidney showed macroscopically a normal cortex or parenchyma, every papilla, however, presenting a cherry red appearance typical of angioma The kidney was removed and careful microscopic studies disclosed an absence of pathologic findings in the cortex or parenchyma proper, but the papillae showed definite chronic inflammatory changes These changes consisted of (1) an overgrowth of connective tissue, (2) multiple microscopic calculi, (3) dilated capillaries with the small calculi in close apposition or the capillaries surrounded by the connective tissue proliferation, and (4) a network of dilated capillaries on the surface of the papillae, many of which were ruptured with free blood escaping These numerous, though small, varices were evidently the source of the hemorrhage, and the inference is that the numerous calculi, aided by the connective tissue which they had originated, succeeded in causing an obstruction to the venous return with a subsequent dilatation of the capillaries and resulting varicosities

Pancreatic Cyst

Dr Joseph Ransohoff, Cincinnati The tumor was situated in the left upper quadrant, projecting into the loin distinctly fluctuating and of slow growth When first seen it was nearly as large as an adult head Cystoscopic examination showed a bloody stream of urine issuing from the left ureteral orifice Indigocarmin injection demonstrated equal function on the part of the two kidneys A diagnosis was made of cystic sarcoma of the left kidney Lumbar exposure of the kidney showed it to be normal Median incision then displayed the cyst of the pancreas, projecting between colon and stomach with the spleen six or eight times its normal size The hematuria disappeared after the operation The pressure of the pancreatic cyst on the renal and splenic vein had produced the hematuria and the enlargement of the spleen

DISCUSSION

Dr **Francis R Hagner**, Washington, D C In splitting a kidney from pole to pole we are doing a partial nephrectomy The destruction of the kidney from that incision is really remarkable In Dr Ransohoff's case, I believe the hemorrhage was due to pressure on the renal vein Recently I had a patient on whom a prostatectomy was done three years ago, and he came back with hemorrhage from the left ureter I catheterized the ureter and found a stricture just at the entrance of the ureteral orifice, while on the other side, the urine was clear This stricture was dilated and a catheter passed up to the kidney The urine was still clear, and the next day hemorrhage stopped This patient has had three recurrent hemorrhages in that way, but after dilation of the ureter, the hemorrhage ceased

Dr **John T Moore**, Houston, Texas I have had one case of cyst of the pancreas about the size of one's head, that did not give rise to hematuria

Hydatid Cysts of the Liver with Report of Two Cases

Dr **George Ben Johnston**, Richmond, Va We have had two cases of hydatid cysts of the liver during the past two years, and about six months ago another case was reported in a Richmond hospital Prior to 1913 only two cases of tenia echinococcus infection were reported from Virginia, and 250 from the United States and Canada The Virginia cases occurred in Alexandria and Staunton There was, however, another case in which infection occurred in Virginia, but was reported from Buffalo by Cary and Lyons Our two patients came from the rural districts, and were exposed to infection both from dogs and from meat which was not inspected properly Surgery is the only method of treatment for this condition Wherever possible, it is always best to remove the cyst in toto, if this is impossible, to remove as much of the cyst as possible and drain, and if this is impossible, to aspirate the cyst

Intussusception in Infants

Dr **Lewis S McMurtry**, Louisville, Ky In dealing with a case of suspected intussusception in a baby, the physician should, if possible, decide the diagnosis before leaving the house The fate of the patient depends on early diagnosis When abdominal section is done, success will depend more on the operator's expedition and skill, with refinement of manipulation, than perhaps in any other abdominal operation The young infant is easily shocked It is very important that the invagination should be reduced by pressure from the apex of the intussusception, so that it is pushed out from within instead of being pulled out The appendix should not be removed unless absolutely necessary, and every effort made to abbreviate the operative procedure When an irreducible invagination is found, the best procedure is to establish an artificial opening in the intestine and wait until a later date for the resection of the invaginated bowel

Operative Treatment of Pyloric Obstruction in Infants

Dr **William A Downes**, New York This report includes sixty-six cases in which operation was performed in five and one-half years All presented the characteristic symptoms A tumor was palpated in every case before operation, and this finding was verified at the time of operation The theory best explaining the syndrome is that a true malformation is present at birth consisting of an abnormal thickening of the circular muscle of the pylorus, and to this is added an edematous condition ten days, or later, after birth The edema probably results from the increased activity of the stomach necessary to force an increasing amount of food through the narrowed and elongated pyloric lumen Gastro-enterostomy was performed in thirty-one of the sixty-six cases, operation in the remaining thirty-five being performed according to the method of Rammstedt Of the thirty-one cases in which gastro-enterostomy was done there were eleven deaths, a mortality of 35 per cent Of the twenty patients discharged as cured, two died afterward of gastro-enteritis, and one of diphtheria The remaining seventeen are well and have developed normally Roentgen examination shows the stomata working satisfactorily, and little or no bismuth passing through the pylorus Of the patients dying in the hospital, a number began to vomit late in their convalescence, reoperation and necropsy offered no satisfactory explanation for the return of symptoms After this unsatisfactory experience it was decided to give the partial pyloroplasty of Rammstedt a thorough trial This operation has been done in the last thirty-five cases In this series there were eight deaths, a mortality of 23 per cent Of the twenty-seven discharged as cured, two have died since leaving the hospital The remaining twenty-five are well extending over a period from a few weeks to one and one-half years In no case has there been a return of the symptoms

Colon Resection and Its Indications

Dr **Frank Martin**, Baltimore The operation should be undertaken only in obstinate and exaggerated cases, but should not be delayed so long as to bring about a toxemia that will of itself defeat the good effects of the operation It is too hazardous to be undertaken purely for the relief of constipation alone It is best in these cases to deal with the localized obstruction or the actual sharp angulation, which is presented in so many of these obstinate cases, rather than do a complete and total resection In most of the cases a considerable portion of the colon is always left, the sigmoid, and in a good many cases a part of the descending colon, if necessary, which is sufficient to compensate for and take on the function of the portion that has been removed, and with this amount maintained, and free drainage established, intestinal toxemia ceases I have not observed that thirst was complained of in any of my cases Nor have I observed diarrhea as a fact, or any serious physiologic derangements in those cases that are done while there is still chance of recovery The patients have gained in strength and in weight

Use of Iodin in Combating the Peritonitides

Dr **J A Crisler**, Memphis, Tenn My experience in the use of this drug leads me to believe that the infected fluids that are free in the cavity are at once sterilized, and that the absorption of toxins is immediately terminated for at least twenty-four hours Also an outpouring of serum and new phagocytes is encouraged Furthermore, there is an abundant serous drainage following, which is in excess of usual drainage common in other methods This tends to disgorge and in a measure wash out the subserous, cellular tissues, which may receive some beneficient, antiseptic effect through a process of osmosis directly from the iodin that has come in contact with the inflamed serosa Iodin has never appeared in the urine earlier than the eighteenth hour after its use in the abdomen, and then only in very small quantities The height of elimination is attained at about the seventy-second hour From Dec 1, 1914, to Dec 1, 1915, we operated in 678 abdominal cases with twenty-three deaths In this number of operations we had 104 pus cases, slightly over 15 per cent.

Salpingitis Secondary to Appendicitis

Dr **James E Moore**, Minneapolis A number of years ago my attention was first called to the possibility of appendicitis being the cause of salpingitis Since that time I have observed a number of cases that have confirmed my conviction that some cases of salpingitis are due to an infection from the peritoneal side caused by an appendicitis

Pseudomucinous Cysts of the Appendix, and Ruptured Pseudomucinous Ovarian Cysts

Dr **Fred Warren Bailey**, St Louis I have seen two cases of pseudomucinous cysts of the appendix, one case complicated by ruptured pseudomucinous ovarian cyst There is no record of malignancy following ruptured pseudomucinous cysts of the appendix, but the danger is far greater in those of ovarian origin Protection against such tumors lies in early exploration of all surgical abdominal lesions

Genital Elephantiasis Following Extirpation of Inguinal Glands

Dr J T Windell, Louisville Ky One of my two patients presented an enormous elephantiasic enlargement of the entire scrotum and penis which he said began early in 1910 The scrotum measured 16 inches in circumference, the penis was 11 inches in length and at its largest part 12 inches in circumference The patient contracted syphilis in 1903 and according to his statement, he has been under antisyphilitic treatment continually since then Two surgical operations had been performed for the removal of enlarged and infiltrated inguinal glands one in 1905 the other in 1909 but for what condition the patient did not know Dense fibrous tissue scars, adherent to the underlying structures, were present in both inguinal regions The scar tissue was more abundant in the left groin which probably explained the greater scrotal enlargement on the corresponding side Local treatment consisted of an appropriate suspensory apparatus and antiseptic dressings At no time was there any acute inflammation of the penile tissues but the scrotum, owing to continuous exudation of lymph from its surface at times became infected and exhibited evidence of acute inflammation which was relieved by suitable antiseptic applications

In the second case, three months after bilateral inguinal adenectomy for enlarged and suppurating glands, probably of tuberculous origin the patient presented an immense hypertrophy of the penis It was unaccompanied by redness or pain and the scrotal tissues were apparently uninvolved Several deep scars were present in each groin from the previous operations

---

WESTERN SURGICAL ASSOCIATION

Twenty Fifth Annual Meeting held at Des Moines Iowa
Dec 17 18 1915

The President, Dr Joseph Rilus Eastman, Indianapolis, in the Chair

Ascending Renal Infection

Dr Daniel N Eisendrath and Dr. Jacob V Kahn, Chicago We have just completed a series of twenty-seven experiments on dogs and rabbits which demonstrate that infection travels from the bladder to the kidneys and perinephritic tissue by way of the lymphatics in the wall of the ureter We have attempted to imitate the environment as found in the human being by injecting an emulsion made by mixing the scrapings of agar slant cultures of the organisms commonly found in urinary infections with sterile salt solution, into the bladder of animals Paraffin sections were taken from a number of places in the bladder and kidney, and were studied serially In order to trace the infection upward, along the ureter every portion of the latter was cut longitudinally as well as serially, so that no areas would be omitted In the early stages of infection the infiltration is found in the submucous layer of the bladder and is especially dense around the smaller vessels in this layer The connecting link between the lymphatics of the ureter and those within the kidney is along the lymphatics of the subareolar tissue which surrounds the blood vessels as they enter the kidney tissue. They follow the organ itself, the course of the intertubular, periglomerular and perivascular lymphatics

Accurate Localization of Foreign Bodies in the Chest, and the Method of Their Removal

Dr Emil G Beck, Chicago In seven cases I removed foreign bodies from the chest cavity, first localizing them by means of stereoscopic roentgenograms Wire localizers were placed on the skin within the suspected vicinity of the foreign body The foreign bodies were removed through external operation In a case of lung abscess from which a pin tack had been removed, I implanted a flap of skin 5 inches long into the lung abscess cavity, thus keeping it open to permit the cauterization with actual cautery of the bronchi which lead into the compartments of this abscess cavity

DISCUSSION

Dr. Lawrence W Littig, Davenport, Iowa There is one important point to remember, and that is, that foreign bodies which have passed through the mouth frequently are followed by a period of calm and quiet Many cases have come to the postmortem table with a diagnosis of tuberculosis or abscess of the lung in which a stereoscopic examination was not made and in which a correct diagnosis was not arrived at because of the deceptive period of calm Whenever lung trouble of any kind is discovered, and disturbance follows the swallowing of a foreign body, a Roentgen examination should be made

Dr Charles H Mayo, Rochester, Minn I recall cases in which foreign bodies, like tacks and nails, have been swallowed and retained for years, and then abscesses would form and when an abscess forms an external operation with drainage is the best method to pursue A foreign body will stay in a bronchus for three or four years and not produce abscess The bronchus will contract above it I have seen Dr Plummer remove a foreign body with the aid of a bronchoscope after it had been present four years and after two unsuccessful surgical operations for its removal

Dr L L McArthur Chicago Many of these cases of chronic abscesses, called frequently chronic empyemas, for which resection of the ribs and collapsing of the wall are made without cure, now have some hope of cure by Dr Beck's method of marsupialization of the abscess cavity so that one can see the connection between the bronchus and the abscess cavity, destroying the mucous membrane and curing the abscess cavity permanently

Dr William Fuller, Chicago I should like to ask Dr Beck the object of implanting skin so deeply in the lung, and what becomes of it in the final healing of the wound

Dr E G Beck Chicago The object of implanting skin is to keep the cavity open for treatment, because otherwise it would close, and even the insertion of a tube would not keep it open As to what becomes of it, there will be a long dimple of skin growing in afterward When I destroy all the mucous membrane of these bronchi, they close up

Thrombo-Angiitis Obliterans (Intermittent Claudication)

Dr Lewis L McArthur, Chicago There occurs in the relatively young in cases not of diabetic, syphilitic or angioneurotic types, a spontaneous gangrene termed thrombo-angiitis by Buerger and spontaneous gangrene of the young by Koga a common occurrence among his countrymen, and almost limited in this country to the Jewish race Mayesima determined the constant high viscosity of the blood in all cases of gangrene Acting on this, Koga confirmed Mayesima's findings and reduced the viscosity by diluting the blood with physiologic solutions (Ringer's) Cases, which in the past were invariably condemned to high amputation, he succeeded in curing by the simple expedient of hypodermoclysis of a sufficient quantity of Ringer's solution and over a sufficient period of time to reduce the viscosity of the patient's blood The testimony of all those who have faithfully carried out Koga's recommendation verify his claims

Dislocation of the Knee

Dr Joseph Ransohoff, Cincinnati A man fell from a height of approximately 48 feet, sustaining an anterior and external dislocation of the knee, with rotation to an angle of 90 degrees, and also a fracture of the lower jaw The circulation of the leg was interfered with, although pulsation could be felt in both dorsalis pedis and posterior tibial arteries The dislocation was easily reduced, and the functional result at the end of six weeks practically restored In a large traumatic service of the Cincinnati General Hospital, this was the third case which had been admitted in twenty-seven years Such dislocations are easy of reduction and are perhaps often reduced by the first aid Samaritans before patients are admitted to the hospital, or seen by the surgeon Reports of not more than 250 cases can be collected from the literature The gravity of the injury depends on the damage done to the popliteal vessels Of this there was a suspicion in the case presented, but evidently there was only a temporary pressure on the vein In many instances gangrene followed rupture of the artery or vein, or both

DISCUSSION

Dr Earl R Hare, Minneapolis I wish to report a case of partial posterior dislocation of the knee joint due to severe traumatism of the leg and rupture of the anterior crucial ligament I do not believe it is possible to have a dislocation of the knee joint in any direction without laceration of the anterior crucial ligament This ligament prevents forward dislocation of the leg, the posterior crucial ligament prevents posterior dislocation, so that I believe these cases of injury to the knee joint are more common than we have been led to believe

Dr Albert E Halstead, Chicago I have seen two cases of backward dislocation of the knee joint Last fall I saw a man who claimed that an automobile had passed over both his legs He had an anterior dislocation of one knee, with gangrene of the leg from the rupture of blood vessels The physician in charge said the man had dislocation of both knees, that he had reduced the other dislocation and had failed to reduce the one in which gangrene occurred On account of swelling he did not recognize the nature of the injury The knee had been dislocated because of great relaxation and free mobility of the joint Apparently the man could put the knee in almost complete dislocation without any difficulty

Foreign Bodies in the Urinary Bladder

Dr E Starr Judd, Rochester, Minn The seven cases include (exclusive of pieces of broken catheter, or surgical instruments) three hairpins, a 0 22 rifle bullet, a piece of chewing gum, a fragment of bone, and a part of a jack-knife blade Bodies lodged in the bladder are prone to incrustation from salt deposits, though some materials, as bone, seem to be immune The stone with the foreign body as a nucleus is usually of considerable size before the patient's symptoms compel him to seek the aid of a physician Pain and burning on micturition, pus and sometimes blood, frequency or retention and marked urgency are frequently the symptoms complained of Attention is called to the fact that foreign objects found in the bladder have usually gained entrance through the urethra, though in two cases, the bone and jack-knife blade, this could not have occurred There is no question that these foreign bodies got into the bladder through the side wall, producing few, if any, symptoms, during the time they were passing in, though very careful examination of the inner lining of the bladder at the time of the operation did not reveal any scars or permanent injury to the bladder wall

Nails and Screws in Joint Surfaces

Dr Arthur T Mann, Minneapolis Nails and screws are tolerated in joint surfaces in man as in the experimental cases in dogs They remain firmly embedded in every specimen We lost no patients There was an occasional infection in the skin, but no joint was infected Gloves were used in most cases, but bare hands in some of them All specimens were recovered In every case in which nails and screws have projected out of the joint surface, the condyle has overgrown to meet the projection In some cases there was slightly more than a projection That is Nature's response to the rigid metal projecting into the joint The overgrowth in the condyle is apparently entirely of bone Practically all of the covering of soft tissue over the nails and screws has reverted to the connective tissue type and is not entirely of the cartilaginous type, so that we have some specimens 6 months old In each case the groove made by the projecting nail or screw has gradually filled up as the projection has become less and less by the overgrowth of the condyle

Osteomyelitis Involving the Hip Joint, a Condition Heretofore Designated Acute Epiphysitis

Dr James E Moore, Minneapolis The disease, which begins at or near the epiphyseal line, described by Macnamara under the name epiphysitis, is an acute osteomyelitis The symptoms all point toward an acute inflammation of the hip joint There are excruciating pain and high temperature, followed by deformity and swelling There is apt to be an early separation of the epiphysis, with rapid destruction of the hip joint The treatment consists of free incision and drainage The opening should be made large enough to admit a finger, in order to ascertain whether or not the epiphysis is separated or not If separation has taken place, the epiphysis should be removed at once This is a grave disease, but with prompt treatment I have seen patients recover who were seemingly beyond help This disease does not begin in the epiphysis, but in the neck of the femur It may begin in the shaft of the femur The reason the name "epiphysitis," originally suggested by Macnamara over twenty-five years ago, still is in vogue is that osteomyelitis is quite rare in this location, and the diagnosis is not made until the joint has become involved and the epiphysis has separated from the neck When the joint is opened, the floating epiphysis at once attracts the operator's attention, and the original opening into the neck of the femur can easily be overlooked

Some Experiments with Rubber Gloves

Dr Carl E Black, Jacksonville, Ill How much does the use of rubber gloves interfere with the tactile sense? I have made 144 observations on six blind pupils who read entirely with their fingers The average time in which the pupils could read the text with the bare fingers was forty-eight seconds, while the average time when the hands were covered with rubber gloves of medium weight and well fitting was seventy seconds With the hands covered with oil and then the gloves put on, the time was reduced to sixty-eight seconds, while with the gloves put on with the hands wet the time was still further reduced to sixty-five seconds The average time for reading with gloves, under all conditions, was seventy seconds In one observation an excess of powder was put in the glove, while in another observation very loose fitting gloves were used With loose, ill fitting gloves the average time for reading 100 words was eighty-six seconds These observations present some interesting facts about the gloves, and show the difference between the carefully fitted medium weight gloves and the loose, badly fitting thick gloves They also emphasize the fact that gloves put on with the hands wet impair the sense of touch less than gloves put on dry

A Paradox in Cancer

Dr C E Tennant and Dr Casper F Hegner, Denver Notwithstanding the long and continued presence of carcinoma extending over a period of ten years, and two operations for recurrence, notwithstanding the possibility of metastasis and a constitutional predisposition to carcinoma, and the coexistence of a very chronic ulcer at a site most favorable to a development of carcinoma, and that too during the cancer decades of life, carcinoma did not develop

Since the age of 16 years the patient, now 58, had been having attacks of stomach trouble with nausea and vomiting These had been severe and almost constant since 1905 When 23 years of age, while nursing her infant, the nipple of the left breast become sore, and abscess developed, which was lanced through the nipple In 1900, twenty-one years after the abscess, the same nipple became sore again This continued until 1907, when the condition was diagnosed as Paget's disease and treated with the Roentgen ray without improvement In March, 1910, there was a superficial pigmented and fibrosed ulceration The nipple and ulcer area were then excised In December, 1911, twenty-one months after the nipple excision, the patient returned with a mass in the upper inner quadrant of the same breast This was the size of a hen's egg and adherent to the skin and deeper structures A complete operation was made, removing the breast, muscle, axillary and supraclavicular lymph glands Dr R C Whitman examined sections of this tissue and reported scirrhous carcinoma with glandular involvement Four years after this operation the patient is free from recurrence In April, 1915, she presented herself for stomach trouble which had existed since she was 16 years old Pain and distress were almost constant, vomiting frequent and a loss of 10 pounds in weight At operation, the pyloric end of the stomach, the pylorus and the first part of the duodenum were fused into a firm mass firmly adherent to the surrounding structures The stomach (pyloric end) and the first portion of the duodenum were resected The mass was excised in wide limits and a posterior gastro enterostomy was performed The history and the appearance of the tissues strongly indicated carcinoma and at the time its presence was considered certain Sections examined by Dr Hegner proved this last lesion to be one of chronic duodenal ulcer with encroachment on the pyloric end of the stomach

Further Study of Malignant Disease of the Ovaries

Dr. Miles F Porter Fort Wayne Ind As a result of large experience I am inclined to disagree with those who advise the removal of a healthy ovary because its companion is cystic This should never be done except perhaps in women near the menopause Fluid in the abdomen which cannot otherwise be accounted for, should lead to exploratory operation A negative laboratory report should not be allowed to outweigh a positive diagnosis of malignancy based on the clinical history and examination of the gross specimen On the other hand many tumors will show little or no signs of malignancy clinically which on microscopic examination are found to be unquestionably malignant I have seen several malignant ovarian tumors without ascites Rapidly growing tumors are most likely to cause ascites Ascites does not mean involvement of the peritoneum Malignant ovarian tumors may cause amenorrhea menorrhagia or metrorrhagia, or may exist without interfering with the menstrual function In some cases there is a history of amenorrhea followed by menorrhagia and vice versa A bloody vaginal discharge years after the menopause has been noted Irregularity of the menses is more common in malignant than in nonmalignant tumors of the ovary I have found one case supporting Wermuth s statement that sarcoma in the young may cause premature signs of puberty This was in a girl aged 6 years, who menstruated regularly Operation revealed a vascular sarcoma and a uterus of adult size

DISCUSSION

Dr. Leonard Freeman, Denver The case reported by Dr Tennant is interesting, but neither unusual nor paradoxical It is the nature of cancer to occur in only one spot as a primary growth in any given individual at any given time

Dr. Charles H. Mayo Rochester, Minn Carcinoma is most common in the stomach, yet with a continuous muscularis and continuous mucosa, it is rare to find carcinoma of the duodenum The process will metastasize in the liver the glands, the colon and the pancreas, but, as a rule it will leave the duodenum alone

Dr. Daniel N Eisendrath, Chicago A woman was sent to me with retraction of the nipple which had existed for three months with no induration to be felt at first around the nipple Immediately surrounding the nipple there was a light yellowish parchment induration which looked like elephantiasis of the leg Believing in the theory that the primary affection in Paget s disease is a ductile carcinoma with secondary involvement of the skin, I made a diagnosis of primary carcinoma of the ducts, with secondary involvement of the skin, the first stage of Paget's disease The breast was removed completely There was tremendous edema of the skin, with typical vacuolated cells The ductile carcinoma radiated from the nipple, and was of such a nature that it was impossible to feel this mass because it was so deep in the breast

Dr J W Andrews, Mankato, Minn Solid tumor of the ovary is very rare I have encountered but one case That tumor weighed 4 pounds, and on section proved to be a fibroid

Dr. Donald McCrae, Council Bluffs, Iowa When a woman has Paget's disease or an old ulcer of the nipple, without involvement of the glands of the axilla, I should not hesitate to remove the breast If we are to get ahead of cancer of the breast, we must remove the disease early

Dr. William T Reynolds, Kansas City Mo I was forced to operate on a woman, aged 32, for acute intestinal obstruction produced by a rapidly growing tumor occupying the entire pelvis She had a villous carcinoma of the ovary on both sides, and an adenocarcinoma at the junction of the descending colon and sigmoid

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below

Albany (N Y) Medical Annals

December 1915 XXXVI No 12 pp 567-612

1 Control of Cancer R Derby, New York
2 *Blood Coagulation in Infancy H L K Shaw and I J Williams Albany

2 Blood Coagulation in Infancy—Shaw and Williams made examinations in 108 healthy infants under 2 years of age by the Dale and Laidlaw method and found the determinations were between one minute fifteen seconds and one minute forty-eight seconds, and the average coagulation time was one minute thirty seconds, which is a slightly shorter time than in adults They observed no difference in the clotting time before and after eating, nor at different periods of the day There was no difference in blood taken from various parts of the body ears, fingers or toes They found that the first drop clotted somewhat more quickly than succeeding ones and a slight hastening of the coagulation time was noted when the tissues surrounding the needle prick was squeezed and manipulated to force out the blood With the Boggs instrument they could find no appreciable difference in the clotting time whether the glass surface was warmed or cooled before applying the blood The results by both the Dale-Laidlaw and Russell-Brodie methods were remarkably constant and Shaw and Williams believe they have established a normal coagulation time for infants and hope in a later communication to compare these results with those obtained in various disease conditions

American Journal of Diseases of Children, Chicago

January XI No 1 pp 1-84

3 *Nature and Quantitative Determination of Reducing Substance in Normal and Pathologic Cerebrospinal Fluid O M Schloss and L C Schroeder New York
4 *Familial Syphilis P C Jeans St. Louis
5 Some Interesting Facts Plainly Brought Out by Chart Method of Studying and Managing Cases of Diabetes Mellitus in Children D H. Sherman Buffalo
6 *Etiology of Pachymeningitis Hemorrhagica Interna in Infants Report of Case A. B Schwartz Chicago
7 *Parapneumonic Empyema L Gerdine Chicago
8 *Nutritive Value of Boiled Milk. A. L. Daniels S Stuessy and E Francis Madison Wis.
9 Congenital Syphilis, Simulating Mongolism, in One of Twins F Van Der Bogert, Schenectady, N Y
10 Case of Traumatic Rupture of Left Kidney C J Bloom and R. E. Stone New Orleans
11 Recent Advances in Anatomy Physiology and Pathology of Childhood J B Holmes, Baltimore

3 Reducing Substance in Normal Cerebrospinal Fluid—The observations cited by Schloss and Schroeder indicate that there is no basis for the belief that the reducing substance in normal cerebrospinal fluid is pyrocatechin Moreover, their results indicate that this agent is a monosaccharid, probably dextrose The results for normal fluids were obtained from a study of material from forty-five infants and children on whom lumbar puncture was done as a diagnostic procedure There were a number of cases of meningism, but all fluids showed a normal cell count and no increase of globulin (Kaplan, Noguchi) The maximum amount of sugar found in normal cerebrospinal fluid was 0 139 per cent, the minimum 0 054 per cent According to Schloss and Schroeder the reducing substance in cerebrospinal fluid is a fermentable, dextrorotatory sugar, probably dextrose In infants and children free from meningeal disease the cerebrospinal fluid sugar ranges from 0 05 to 0 134 per cent (dextrose), approximately the same figures which obtain for blood sugar There is *no decrease* in the reducing power of the cerebrospinal fluid in meningism. A large proportion of the cases of tuberculous meningitis show a decrease in the sugar content of the cerebrospinal fluid at some stage of the disease. In a few cases however, the sugar is normal at all times or diminished but slightly A decrease only is of diagnostic value

4 **Familial Syphilis**—It does not seem likely to Jeans that germ transmission of hereditary syphilis ever occurs He thinks it is highly probable that all the mothers of syphilitic children have been infected with syphilis Of eighty-five mothers of syphilitic children 86 per cent gave positive Wassermann reactions All of the remaining cases but six gave a history of infection or treatment, or both Five of these six patients were examined at least ten years after the birth of their last syphilitic children and the infection is probably dying out Of the mothers 87 per cent deny all knowledge of the infection The mothers are for the most part infected during the latent stage of the father Of 331 pregnancies in 100 families, 30 per cent were abortions, 9 per cent stillbirths, 61 per cent living births Of the living births 24 per cent had died Of those living 80 per cent had syphilis Of the total pregnancies 90 per cent were presumably syphilitic and although 10 per cent seem free from syphilis, there is no proof that they all are The total syphilis in these families amounts to 93 per cent of the entire family For the most part these families followed Kassowitz's rule, namely, decreasing grades of infection in the children In case of syphilitic mothers bearing non-syphilitic children, Jeans thinks it is probable that the infection in the mother is localized in places in which it is not readily transmitted The idea that there are different strains of spirochetes receives some support from these families Transmission to the third generation, though not proved, is distinctly an occasional probability

6 **Pachymeningitis Hemorrhagica Interna in Infants**—Pachymeningitis hemorrhagica as it occurs in infancy Schwartz believes is an infectious disease, which may be caused by the meningococcus or other organisms The case reported is one in which the meningococcus was demonstrated in the spinal fluid on several separate examinations

7 **Parapneumonic Empyema**—In a series of fifteen cases of typical lobar pneumonia or bronchopneumonia, in children under 4 years of age, exploratory punctures of the chest were made by Gerdine as early as possible in the course of the disease The needle was put in over the area of greatest impairment as shown by physical signs and roentgenograms In only one of the cases in which fluid was not found at the first puncture, were subsequent trials made, and no fluid was found until the twenty-second day, when a typical metapneumonic empyema was found In six of these fifteen cases (40 per cent) fluid was recovered by puncture before the seventh day of the disease, always before the crisis Five of the six fluids were opaque and yielded a large clot They contained a large number of cells, between 70 and 80 per cent polymorphonuclear leukocytes No micro-organisms could be demonstrated in them by smears Cultures on agar, milk, bouillon, and with some on blood-agar, gave no growths Inoculations into mice were without harmful results, except in one case in which the mouse died within twenty-four hours, but no lesions were found and no organisms could be grown from its heart's blood or serous cavities In all five cases the fluids were absorbed spontaneously, as was shown by later punctures and roentgenograms The clinical course of the disease was never noticeably affected by the presence of these fluids

8 **Value of Boiled Milk**—The results obtained by the authors point to the conclusion that milk heated to the boiling temperature or thereabouts is an inadequate food Rats fed on boiled milk grew to about half their normal size Although they have been able to keep these experimental animals for many months on boiled milk, in no case have they got reproduction, nor have any of the animals reached the normal weight for adult rats Milk which is kept at the boiling temperature for forty-five minutes is no less efficient as a food than milk boiled for much shorter periods—ten minutes or one minute The chemical changes which make heated milk an inadequate food are brought about at the boiling temperature or thereabouts The value of pasteurized milk as a food, therefore, will depend on the temperature to which it is heated during the pasteurization process Heating milk to a higher temperature than boiling (114 C) makes it even less valuable as a food

American Journal of Tropical Diseases and Preventive Medicine, New Orleans

December, 1915, III, No 6, pp 311 366

12 Influence of Tropical Medicine on General Medicine H J Nichols, U S Army
13 Accomplished Tasks of Tropical Medicine J M Swan, Rochester, N Y
14 *Few Cases of Blackwater Fever and of Peculiar Enterocolitis. E F Otis, La Romana, Dominican Republic
15 *Tuberculosis in Negro of Panama Canal Zone H C Clark, Ancon, C Z

14 ***Cases of Blackwater Fever***—Otis describes an interesting *syndrome that appeared in Santo Domingo* in the past year without determining symptoms and of virulent nature The only cases he has met thus far have occurred in children between the ages of 5 and 10 years One case began with a slight indisposition for one day, however, these attacks usually began abruptly without any premonitory symptoms The patient becomes nervously agitated and it may pass on to a convulsion The fever sometimes rises to 104 F, and above, and remains there more or less constantly for from three to six days It is not a pure enteritis The bowels have a marked tendency to obstipation It is apparently not a food toxemia In none of the more typical cases had there been digressions from the regular foods taken by the other members of the family Nor did it particularly select weaklings, for, excepting one boy with malnutrition, all were exceptionally strong Some were of poor parents, others lived in comfortable homes It was essentially toxic, and resulted in an almost complete cessation of peristalsis This was, with difficulty and only partially, overcome by doses of eserin in combination with various laxative procedures It was enteric in that such bowel movements as appeared were completely surcharged with mucus All cases had a distinctive odor to the bowel movements similar to that of fresh beef The urine was uncommonly free from microscopic abnormalities, also the feces This affection is also clinically interesting as to its termination The fever may be raging for hours at 104 F or above, in spite of a reasonable amount of antipyretic measures Sometimes, after days, it drops to about 100 F About this time the patient can only with difficulty be persuaded that it is necessary to remain in bed He feels well, but the low subnormal temperature usually continues for many days On exertion the patient discovers that his physical endurance is at a low ebb

15 **Tuberculosis in Negro**—Tuberculosis is a common disease on the Isthmus of Panama In a period of about five years it has led all other single factors by a wide margin as a cause of death, if the anatomic records at Ancon can be taken as a safe index Based on an examination of the past and present anatomic records, Clark says, it would appear that the disease is increasing among the negro population The duration of the course of tuberculosis in the negroes of this region can be better represented by months rather than by years as is so frequently the case in the white race The disease is more often widely disseminated in the negro than in the other races of this region There is but little evidence offered, in the study of this material of an arrested or healed process in the negro, yet such findings are frequent in the other races Overcrowding, poverty, ignorance and race appear to be important factors in the propagation of the disease in this region Much evidence found indicates that many of the cases of tuberculosis in this group acquired their infection on the Isthmus Bone, joint and cutaneous types of tuberculosis are less common here than in the United States The pulmonary type of the disease, becoming rapidly disseminated, is the common form occurring in the negroes on the Isthmus

Boston Medical and Surgical Journal

Dec 30 1915, CLXXIII No 27 pp 979 1018

16 Foot Strain and Other Common Foot Defects H W Marshall Boston
17 Prognosis of Incipient Senile Cataract D W Wells Boston
18 Radical Treatment of Peritonsillar Abscess by Tonsillectomy During Acute Stage of Disease H A Barnes Boston
19 Significance of Changes in Cellular Content of Cerebrospinal Fluid in Neurosyphilis H C Solomon and H O Koefod Boston

Cleveland Medical Journal

November 1915 XII No 11 pp 713 792

20 Smaller Nursing Districts for All Public Health Work vs Larger Districts for Specialized Work H J Gerstenberger, Cleveland
21 Medical Inspection of School Children E A Peterson Cleveland
22 Protection of Cleveland's Food Supply F W Ball Cleveland
23 Role of Pure Milk in Prevention of Disease A J Furrer Cleveland
24 Welfare Work in Modern Factory W A Haldy, Cleveland
25 Safeguarding Quality of Medicines J T Woolsey Cleveland

Colorado Medicine, Denver

December 1915 XII No 12 pp 53 384

26 Senile Parenchymatous Hypertrophy of Breast C A Powers Denver
27 Evolution and Present Status of Mental Therapeutics E J A Rogers Denver
28 Five Cases of Relapsing Fever Originating in Colorado with Positive Blood Findings in Two C N Meader Denver
29 *Use and Abuse of Drugs W T Little Canon City
30 Immunity in Tuberculosis C B Webb and G B Gilbert, Colorado Springs
31 Triumphs of Preventive Medicine F W Ames e, Denver

29 **Use and Abuse of Drugs**—Little summarizes his paper as follows Pharmacology is a branch of medical science second to none other in importance It is essential to know disease its cause and its natural history before we can successfully control it, but its prevention and cure is the ultimate purpose of all our efforts By physical and chemical means we endeavor to restore to their normal function organs damaged by disease, and only when their functions are destroyed should we cut them away Drugs are of the greatest value in modifying and restoring function but they should be used with a precision that can come only from an exact knowledge of their action The pharmacologic laboratories are gradually weeding out those drugs of uncertain value as the expectorants the hypophosphites viburnum strychnin, etc , and hard as it may be to part with old friends, it is our duty to do so if we are to maintain the highest state of medical efficiency A knowledge of the physiologic action of a drug is essential to its correct use We should know that our drugs are both active and pure We should give drugs only when they are clearly indicated In judging the worth of a remedy always maintain an attitude of scientific skepticism

Georgia Medical Association Journal, Augusta

December 1915 V No 8 pp 171 192

32 Country Physician J R Robins Siloam
33 Physician as First Aid in Detection of Crime C W Gould Atlanta
34 Final Report of Work Leading to Eradication of Uncinariasis in Georgia A G Fort Atlanta
35 Commercialism of Pharmacy and Reason A D Little Thomasville
36 Possible Danger of Roentgen Ray in Latent Pellagra G M Niles Atlanta
37 Hygiene vs Medicine in Treatment of Skin Diseases. C Swanson, Atlanta.

Illinois Medical Journal, Chicago

December 1915 XXVIII No 6 pp 401-472

38 Diphtheria Treatment in General Practice R. R. Ferguson Chicago
39 Value and Limitations of Schick Diphtheria Reaction in General Practice. A Levinson Chicago
40 Value of Specific Treatment in Croupous Pneumonia. J L Miller Chicago
41 Diagnosis and Medical Treatment of Exophthalmic Goiter S R Pietrowicz Chicago
42 Goiter and Indications for Its Treatment A A O Neill Chicago
43 Serum Treatment for Physiologically Defective Thyroids Clinical Reports R Watkins Chicago
44 Better Milk at Better Price C J Whalen Chicago
45 Enlarged Public Health Activities in Illinois and Relation of Medical Profession Thereto C St C Drake Springfield
46 Reciprocal State Laws Regarding Marriage of Diseased Individuals and Mental Defectives A M Corwin Chicago
47 Intraspinal Therapy of Syphilis of Nervous System R B H Gradwohl St Louis
48 Loss and Waste from Inadequate and Inconsistent Planning of State Hospitals R Dewey Wauwatosa Wis
49 Interstitial Gingivitis and Pyorrhea Alveolaris E S Talbot Chicago
50 Cancer E C Franing Galesburg
51 Acute Frontal Sinusitis R H Good Chicago
52 Pyelonephritis F S Cary Chicago
53 Sugar Treatment of Ozenal Rhinitis C B Younger Chicago
54 Retrospect. C F Smith Kankakee.

Journal of Experimental Medicine, Baltimore

January XXIII No 1 pp 1 147

55 Immunologic Studies in Pneumonia R Weil and J C Torrey, New York
56 A Skin Reaction in Pneumonia R Weil, New York
57 *Experimental Study of Effect of Cholecystgastrostomy on Gastric Acidity J G Grey Boston
58 Pathologic Study of Syphilitic Aortitis and Its Serology J H Larkin and I J Levy, New York
59 Etiology of Rat Bite Fever F G Blake Boston
60 Antiblastic Immunity A R Dochez and O T Avery, New York
61 Atheroma and Other Lesions Produced in Rabbits by Cholesterol Feeding C H Bailey, San Francisco
62 Relation of Spleen to Blood Destruction and Regeneration and to Hemolytic Jaundice Changes in Blood Following Diversion of Splenic Blood from Liver Control Study of Effects of Splenectomy E B Krumbhaar, J H Musser Jr , and M M Peet, Philadelphia
63 Id Resistance to Hemolytic Agents of Dogs in Which Splenic Blood Has Been Diverted from Liver E B Krumbhaar and J H Musser Jr Philadelphia
64 Quantitative Analysis of Influence of Size of Defect on Wound Healing in Skin of Guinea Pig K C Spain and L. Loeb St Louis
65 Intestinal Obstruction G H Whipple, F H Rodenbaugh and A K Kilgore San Francisco
66 Icterus C W Hooper and G H Whipple San Francisco

55 **Immunologic Studies in Pneumonia**—The serum derived from human cases of pneumonia has been used by Weil and Torrey to sensitize guinea-pigs passively As antigen an autolysate of a pneumococcus culture was employed By means of Dale's method it has been possible to show with considerable regularity that the blood contains sensitizing antibodies during the course of pneumonia, but none after the crisis Patients suffering from other diseases have failed to give this reaction, as have also normal individuals

56 **A Skin Reaction in Pneumonia**—Weil describes the results observed when pneumococcus antigen, prepared in the same way as for the anaphylactic experiments was injected intracutaneously into a series of pneumonia patients and into controls The autolysate was kept in the ice-box, and was never used more than one week aftere its preparation During this period no change could be detected in its effects when injected into the skin The amount injected varied from 0 1 to 0.2 c c depending on the texture of the skin The injection is immediately followed by a superficial, ill defined cutaneous blush This is present in pneumonia cases as well as in controls It is believed to be due to a local irritant effect and is not considered as a true reaction The subsequent course of events at the site of injection varies under different circumstances The superficial erythema may fade within a few hours, and nothing further may develop Such a course is denominated as an absence of reaction, and the case is called negative On the other hand, within the twenty hours following the injection further changes may occur at the site of injection A fairly well circumscribed area of erythema with slight infiltration and elevation of the skin surrounding the point of puncture may develop If the infiltration is marked, a true papule results These changes may persist for forty-eight hours or more They are described as a reaction and a case presenting this is called positive During the course of the disease the skin presents no reaction to the injection After the subsidence of the disease, a considerable percentage of the cases do present a reaction From a diagnostic standpoint, the reaction has no significance The fact that it is absent during a pneumonic process does not sufficiently establish the bacterial etiology of the disease

57 **Effect of Cholecystgastrostomy on Gastric Acidity**—The purpose of the investigations reported by Grey has been to determine the effect of bile on the acid chyme of the stomach By means of a cholecystgastrostomy with ligation and division of the common bile duct in six dogs the bile was diverted from the duodenum into the stomach The secretion of gastric juice and the acidity of the gastric contents throughout the period of digestion were followed before and after the anastomoses For this purpose three of the dogs were provided with Pawlow stomach pouches In the three remaining animals the test meals were recovered by using apomorphin injections The results from the two

series of experiments agree They indicate, at least with a diet of meat and water, that bile when it is present in the stomach throughout the course of digestion has no appreciable effect on the acidity of the gastric contents While the anastomosis of the gallbladder to the stomach occasioned some temporary anorexia and vomiting in two of the dogs, the four remaining animals bore the operation well Three or four weeks subsequent to the operation the digestion and the nutrition appeared normal in each instance Postmortem examinations revealed no pathologic changes in the gastric mucosa

60 **Antiblastic Immunity**—Dochez and Avery state that antipneumococcus serum possesses the power of inhibiting for a certain period of time the multiplication of pneumococci It also has the capacity of inhibiting the proteolytic and glycolytic functions of pneumococci This power is acquired for the first time or appears in increased amounts in human serum at the time of crisis in lobar pneumonia The retardation of bacterial growth is thought to be dependent on the inhibition of metabolic function due to the presence of antienzymotic substances in antipneumococcus serum To this phenomenon the authors have applied the term antiblastic immunity

66 **Icterus**—The experiments made by Hooper and Whipple show that hemoglobin can be changed to bile pigment within the pleural or peritoneal cavities This transformation can usually be detected after eight hours, and the amount can often be estimated quantitatively after an interval of twenty-four hours These experiments demonstrate the importance which may attach to extrahepatic bile pigment formation That bile pigments can be formed without direct liver activity is established beyond doubt The authors suggest that it is highly probable that endothelium as well as mesothelium (serous cavities) can transform hemoglobin into bile pigment It is possible that this property may reside in cell protoplasm in general

Journal of Infectious Diseases, Chicago

January XVIII No 1 pp 1 128

67 *Use of Brilliant Green for Isolation of Typhoid and Paratyphoid Bacilli from Feces C Krumwiede, Jr, J S Pratt and H I McWilliams, New York
68 *Mechanism of Abderhalden Reaction with Bacterial Substrates G H Smith and M W Cook, Glenolden, Pa
69 *Nonspecific Complement Fixation by Normal Rabbit Serum J A Kolmer and M E Trist, Philadelphia
70 *Nonspecific Complement Fixation by Normal Dog Serum J A Kolmer, M E Trist and G D Heist, Philadelphia
71 Influence of Splenectomy and Anesthetics on Nonspecific Complement Fixation Sometimes Shown by Normal Rabbit and Dog Serums J A Kolmer and R M Pearce, Philadelphia
72 *Relation of Serum Lipoids and Proteins to Nonspecific Complement Fixation with Normal Rabbit and Dog Serums J A Kolmer, Philadelphia
73 Effect of Heat on Normal Rabbit and Dog Serums in Relation to Antilytic and Nonspecific Complement Fixation Reactions J A Kolmer and M E Trist, Philadelphia
74 *Complement Fixation in Intestinal Parasitism of Dogs J A Kolmer, M E Trist and G D Heist, Philadelphia
75 *Epidemiology and Symptomatology of Outbreak of Septic Sore Throat in Westchester County, New York C E A Winslow and L W Hubbard, Albany, N Y
76 Value of Virulent Salt Solution in Production of Antihog Cholera Serum by Intravenous Method R Graham and L R Himmelberger, Lexington, Ky
77 Filterable Organism Isolated from Tissues of Cholera Hogs D J Healy and E J Gott, Lexington, Ky

67 **Brilliant Green for Isolation of Typhoid Bacilli**—With an easily prepared agar, two concentrations of brilliant green being used, the authors found it possible markedly to increase the per cent of positive typhoid isolation from stools This has given much better results than the employment of brilliant green broth alone, although the dye-broth enrichment method may give positive results when the agar alone fails The methods can be applied to the isolation of the members of the paratyphoid enteritidis group from stools

68 **Abderhalden Reaction with Bacterial Substrates**—The work of Smith and Cook confirming the studies of Bronfenbrenner, demonstrates that the Abderhalden reaction may be divided into two phases The first phase involves a sensitization of substrate by its specific serum The second phase represents an autodigestion of the serum, which is not due to specific causes In the sensitization of substrate an absolute specificity obtains Whether or not this sensitization is of the nature of an antigen-antibody reaction forms at present the subject of a further investigation

69 **Nonspecific Complement Fixation by Normal Rabbit Serum**—Fresh, active serums from normal rabbits in doses of 0 1 c c showed nonspecific complement fixation with lipoidal extracts in 5 to 15 per cent of serums When these same serums were inactivated by heating them in a water bath at 55 to 56 C for thirty minutes, complement fixation occurred in 38 to 49 per cent of the serums With both active and inactivated serums the highest percentage of positive reactions was observed when alcoholic extracts of heart muscle reenforced with cholesterin were used as antigens, alcoholic extracts of syphilitic liver gave the second highest, and an extract of acetone insoluble lipoids gave the lowest, percentage of positive reactions With bacterial antigens of staphylococci and colon and typhoid bacilli, fresh, active rabbit serums showed some degree of complement fixation in 31 to 42 per cent of instances, when these serums were inactivated, positive reactions occurred in 51 to 62 per cent

The degree of complement fixation with normal rabbit serum and lipoidal and bacterial antigens is usually moderate or slight, as about 50 to 85 per cent of reactions show 50 per cent, or less, inhibition of hemolysis The reacting state of a rabbit's serum when the animal is on an average diet is usually constant, in that 80 per cent of their animals reacted persistently negatively or persistently positively when examined at intervals of three days to a month Emphasized by Kolmer and Trist that when rabbits are employed for experimental studies with a view to using their serums for complement fixation tests, their serums should be tested one or more times, before inoculation, preferably with the particular antigen to be used, and only those selected that react negatively

70 **Nonspecific Complement Fixation by Normal Dog Serum**—The authors found that dog serum in both an active or fresh condition and after heating or inactivation is capable of absorbing complement, in a relatively large percentage of instances, with various lipoidal and bacterial antigens

72 **Relation of Serum Lipoids and Proteins to Rabbit and Dog Serums**—Kolmer summarizes this paper as follows Both the serum lipoids and proteins are concerned in the antilytic and nonspecific complement fixation reactions with normal rabbit and dog serums The role of the serum lipoids in these processes is indicated in the observation that extraction of suitable serums with ether and chloroform usually diminished the antilytic and complement fixing powers of a serum whereas the enteral and parenteral administration of lipoids increased the antilytic and complement fixing powers Serums that are extracted with ether are rendered primarily more antilytic, after heating an extracted serum the antilytic titer is generally reduced, as compared with the titer of plain heated serum Both the globulin and albumin (filtrate) fractions of normal rabbit and dog serums possess thermostabile antilytic and complement fixing properties, usually the former to a slightly greater degree The antilytic and complement fixing substances of normal rabbit and dog serums are not dialyzable

74 **Complement Fixation in Canine Parasitism of Dogs**—According to the results of complement fixation tests with the serums of infested dogs the authors believe that production of antibodies may occur after infestation of the intestines with the common parasites Production of antibodies was especially in evidence in infestations with tapeworms, to a less degree with the ascarides or round worms, and to a slight extent with the whipworm These complement fixations have tended to show a biologic relation between the tapeworms *Tenia serrata* and *Dipylidium caninum* and between *Ascaris canis* and *Strongylus gigas*, although on account of the wide morphologic differences they leave it an open question, it is probable, therefore, that complement fixation tests will not differentiate with the usual technic between related species of parasites, although they may show the presence of a parasite The authors suggest that com

plement fixation tests may be of value in the diagnosis of intestinal parasitism of man, and they are now making investigations in this field

75 **Outbreak of Septic Sore Throat**—An outbreak of 905 cases of septic sore throat occurred in 4 neighboring communities of Westchester County, New York, in the spring of 1915, reaching its maximum between February 15 and March 22 The distribution of cases of the disease over a long period of time and the absence of any common food or milk supply for a majority of the cases Winslow and Hubbard believe indicates that it was spread, for the most part, by contact and in prosodemic fashion The fact that at the height of the outbreak (February 15 to March 8) there was an increase in the proportion of cases in households supplied by a certain milk dealer, that the family incidence in these households was unusually high, and that the severity of the disease in them was accentuated, indicates that a small milk or cream epidemic was then superimposed on the general prosodemic spread of the disease Septic sore throat tends to affect females much more than males Septic sore throat usually affects all ages without marked preference In the Westchester County outbreak 83 per cent of the cases showed reddening of the throat 60 per cent tonsillar involvement, 50 per cent glandular involvements 47 per cent prostration, 37 per cent a high temperature (over 102 degrees), 20 per cent false membrane, 11 per cent rheumatism 9 per cent quinsy, 8 per cent ear infection, 7 per cent relapses, 3 per cent nephritis, 2 per cent erysipelas and 0 4 per cent endocarditis High temperature prostration relapses rheumatism, erysipelas and nephritis were symptoms more common among the old, involvements of glands and ears, among the young When septic sore throat is spread by contact multiple cases in a household are less numerous than when it is spread by milk Septic sore throat is generally more severe when milk-borne than when spread in prosodemic fashion

Journal-Lancet, Minneapolis

Dec 1 1915 XXXV No 23 pp 649 677

78 Open Air Treatment in Surgery J W Markoe New York.
79 Therapeutic Effects of Radium D T Quigley Omaha
80 Psychotherapy G J Gislason Grand Forks N D
81 Two Hundred Cases of Pulmonary Tuberculosis J G Lamont Dunseith N D
82 Anuria for Five and One Half Days in Patient on Whom Left Nephrectomy Had Been Done G J Thomas Rochester

Kentucky Medical Journal, Bowling Green

December 1915 XIII No 13 pp [illegible]

83 *Plea for More Thorough Examination of Cases Presenting Symptoms Referable to Pulmonary Tuberculosis O O Miller Louisville.
84 *Medical Treatment of Incomplete Abortion B J O Connor Louisville
85 Facts in Ophthalmology Essential to General Practitioner T W Moore Huntington W Va
86 *Focal Infection N T Yager Louisville
87 *Complications of Middle Ear Suppuration L. S Givens Cynthiana
88 Head Cold Parts Involved and Some of the Results C A Moss Williamsburg
89 Diseased Tonsils What Shall We Do With Them? C E Purcell Paducah
90 Roentgen Ray in Diagnosis of Bone and Joint Lesions J B Mason London
91 Interstitial Nephritis Its Cause and Prevention S Lambert Owensboro
92 Puerperal Eclampsia Report of Four Cases W H Joyner East Bernstadt
93 Rheumatism T A. Pease Kirbyton
94 Menorrhagia T C Nichols Morgan

83 Abstracted in The Journal, Oct 16, 1915, p 1397

84 86 and 87 Abstracted in The Journal, Oct 16, 1915, p 1398

Medical Record, New York

Dec 25 1915 LXXXVIII No 26 pp 1079 1124

95 *Role of Roentgen Rays in Diagnosis of Ureteral Calculus. W Meyer New York.
96 Surgery of Gastric and Duodenal Ulcer in Relation to Insurance Risk. H Gage Worcester Mass
97 Severely Impaired Audition in Childhood L. M Hubby New York
98 Correlation Between Olfactory and Genital Functions in Human Female J A Hagemann Pittsburgh
99 *Torsion Injuries of Muscles of Abdominal Wall Report of Cases G I Boehme Jr New York
100 Mental Defectives, Their Importance H V Wildman, Jr, New York

95 **Roentgen Rays in Diagnosis of Ureteral Calculus**—Meyer believes that Roentgen rays represent a wonderful assistance to the surgeon in diagnosing the presence of ureteral stones and stones in the urinary tract in general, but insists that the Roentgen-ray examination should be stereoscopic, whenever possible, and include both sides of the urinary tract In order to do full justice to the patient and to avoid disappointment to surgeon and patient alike, cystoscopy with ureteral catheterization should follow the Roentgen-ray examination A scratch on the wax-tipped ureteral stilette or catheter furnishes additional reliable proof of the presence of a stone A negative Roentgen ray result plus missing scratch on the wax-tipped ureter stilette may be accepted as proof of the absence of a ureteral stone in the given case

99 **Torsion Injuries of Muscles of Abdominal Wall**—Boehme means any injuries to them or their attachments, caused by the sudden rotation of the body on its vertebral axis laterally, or the sudden extension of the abdominal muscles by a movement in the vertical plane The four cases he has seen were brought about by the sudden throwing of a weight with the twisting of the body laterally The traumatism was occasioned by the sudden contraction of the muscles of the abdominal wall against a resistance. There was a sense of something giving way with a sharp pain, and these were found to be an inability to repeat the attempt In some instances breathing, where of the abdominal type, was painful and markedly limited On examination a point of tenderness was made out, either in the rectus injured or in the oblique muscles (three cases) Sometimes a slight separation, as evidenced by a dimplelike depression on attempting to use the muscle, could be made out Movements using these muscles were much limited by pain at the site of the injury The pathology of the process is simple Apparently with the intense muscular strain certain fibers in the recti or oblique muscles are ruptured and the tear creates a painful area within the muscle bodies An adhesive plaster dressing was employed which has proved eminently satisfactory An adhesive band, 2 inches in width, was started just external to the anterior superior spine of the uninvolved side and carried in the general line of the external on the involved side, around the body to the opposite side of the vertebral column This was applied during complete expiration From the opposite anterior superior spine a similar band was carried in the direction of the uninvolved external oblique crossing the first band at the medium line and ending on the opposite in the back As many bands were carried up the body as was necessary to immobilize the abdominal wall and to relieve the pain The relief was instantaneous the patient was able to resume work of a general variety although torsion movements were interdicted As a rule, recovery ensured in about two weeks

Michigan State Medical Society Journal, Grand Rapids

December 1915 XIV No 12 pp 597 630

101 Tuberculosis in Children J B Jackson, Kalamazoo
102 Miliary Tuberculosis of Lungs in Senile Period E Rawlings Kalamazoo
103 Artificial Pneumothorax in Treatment of Pulmonary Hemorrhage C H Johnston Grand Rapids
104 Retrocecal Appendicitis. H W Hewitt Detroit
105 Congenital Hypertrophic Stenosis of Pylorus A O Hart St. Johns
106 Intraspinal Injections of Mercuralized Serum for Cerebral Syphilis C F Karshner Big Rapids

Missouri State Medical Association Journal, St. Louis

December 1915 XII No 12 pp 517 574

107 Factors That Make for Better Results in Cranial Surgery E. Sachs St. Louis.
108 *Tumors of Carotid Body Report of Case. C W Russell Springfield
109 Chronic Cystic Mastitis O L Castle Kansas City
110 *Dealing with Abdominal Adhesions F G Nifong Columbia
111 Experiences with Scopolamin Narcofin Narcosis R S Tilles St Louis.
112 Use of Scopolamin Narcofin During Labor G Gellhorn and W Kerwin St. Louis

113 Scopolamin Narcofin Seminarcosis O H Schwarz, St Louis
114 Unusual Extra Peritoneal Abdominal Neoplasm (Lipoma) J Geiger, St Joseph

108 and 110 Abstracted in THE JOURNAL, June 26, 1915, p 2162

Modern Hospital, St Louis

December, 1915, V, No 6, pp 367 462

115 St Louis Children's Hospital S S Goldwater and B S Veeder, St Louis
116 Work of Surgical Team in Hospital N R Harlan, Freeport, Ill
117 State of New York Develops an American Spa A W Ferris, New York
118 Hospital Floors — Costs, Advantages and Practical Points R E Schmidt, Chicago
119 Libraries and Their Management in State Hospitals M E Carey
120 Physicians' Hospital of Thief River Falls, Minnesota H W Froehlich
121 Chocolate and Cocoa — Their Composition and Food Value J P Street, New Haven, Conn
122 Medical and Surgical Efficiency in Large General Hospitals F A Washburn and J J Bresnahan, Boston
123 Medical Education B I McGrath, Milwaukee, Wis

New Jersey Medical Society Journal, Orange

December 1915 XII No 12 pp 585 626

124 Relation of Dentistry to Neurology C C Beling Newark
125 State Care of Insane B D Evans, Morris Plains
126 Contusions of Abdomen J A Mackay, Paterson, N J
127 Urticaria in Children C J Halpern, Newark
128 Cleaning of Hand G K Dickinson, Jersey City
129 Chronic Rhinitis Its Treatment M J Weiss, Bayonne.
130 Half Forgotten Heroes F W Owen, Morristown
131 Surgical Triangle C B Kelley, Jersey City

New Orleans Medical and Surgical Journal

December, 1915, LXVIII, No 6 pp 359 430

132 Diseases of Indians of Southwest and Their Treatment R I Geare
133 Uncinariasis at Cuyamel K Barlow, Cuyamel, Honduras
134 Interesting History of Kidney Stone J I Ochsner, New Orleans
135 Tarsal Massage in Trachoma T J Dimitry, New Orleans
136 Fracture, Dislocations of Cervical Vertebrae J T O Ferrall and W P Bradburn, New Orleans
137 Case of Hemoptysis, Evidently of Syphilitic Origin A L Levin, New Orleans
138 Radium an Asset to Surgery C W Allen, New Orleans
139 Extraction of Exploring Needle Broken in Attempting to do Spinal Puncture for Diagnostic Purposes, Case Report L H Landry, New Orleans

New York Medical Journal

January 1 CIII No 1, pp 1 48

140 Headache in Its Relation to Nasal Disease W Freudenthal, New York
141 Study of Drug Action T J Mays, Philadelphia
142 Salvarsan in Primary Syphilis A A Uhle and W H Mackinney, Philadelphia
143 Old Case of Chronic Insomnia W R Riddell, Toronto
144 Some Puzzling Features of Empyema J H Pryor, Buffalo
145 Sugars and Starches in Infant Feeding T S Southworth New York
146 Headache F Neumann, New York
147 Physiologic vs Symptomatic Therapy A C Geyser, New York
148 Simple Guides for Artificial Feeding of Infants M H Edelman, New York

Northwest Medicine, Seattle

December, 1915 VII No 12, pp 373 406

149 Roentgen Examination of Chest J H Snively, Seattle
150 Use of Roentgen Ray as Aid in Diagnosis of Pulmonary Tuberculosis R W Matson, Portland, Ore
151 Tuberculin Therapy E S Jennings, Spokane
152 Autoserotherapy vs Artificial Pneumothorax in Treatment of Pleurisy with Effusion E A Pierce Portland, Ore
153 Fascial Transplantation, Report of Unusual Case (Desmoids and Ventral Hernia) H A Shaw, Seattle
154 Hypernephroma of Kidney E O Houda, Tacoma
155 Medical Ethics S E Bruce, Lewiston, Idaho

Oklahoma State Medical Association Journal, Muskogee

December, 1915 VIII, No 7 pp 217 249

156 Nervous and Mental Diseases of Children J L Day, Norman
157 Examination of School Children by Teachers W E Dixon, Oklahoma City
158 Empyema in Childhood G A Wall, Tulsa
159 Importance of Recognizing and Appreciating Diseased Tonsils as Factor in Constitutional Diseases V C Tisdal, Elk City
160 Development of Child C Puckett, Pryor
161 Hygiene in Home and School T A Rhodes, Goltry
162 Tuberculosis of Kidney J Overton, Tulsa

FOREIGN

Titles marked with an asterisk (*) are abstracted below Single case reports and trials of new drugs are usually omitted

British Journal of Children's Diseases, London

December, 1915, XII, No 144, pp 353 392

1 Efficacy of Antimeningococcal Serum in Present Epidemic of Cerebrospinal Meningitis A Netter

British Medical Journal, London

December 11, 1915 II, No 2867, pp 845 880

2 Psychic Mechanism of Voice in Relation to Emotions F W Mott
3 Organic Lesions from Shell Concussion J J Evans
4 Bilateral Iridodialysis with Amblyopia and Contracted Fields Due to Exploding Shrapnel I D Bennett
5 *Prophylaxis of Tetanus A T MacConkey
6 Control of "Diphtheria Bacillus Carrying', and Jasmin Oil Method. W Ewart
7 Spinal Injuries of Warfare G Holmes

5 **Prophylaxis of Tetanus** —The experience gained during the first year of the war, MacConkey says, has confirmed the opinion that from 500 to 1,000 United States Army units of tetanus antitoxin is a sufficiently large prophylactic dose for the majority of cases, and that it is advisable in severe wounds to repeat the dose once or twice at intervals of a week Occasionally cases occur in which antitoxin appears to have little preventive effect Those cases of tetanus which develop some weeks after the receipt of an injury may be due to the reactivation of a quiescent focus by too early or too energetic active or passive movement As regards operating in cases of tetanus the opinion before the war was against doing so, and nothing has occurred since to change that opinion When an operation is proposed in wounded who may have been infected with tetanus bacillus it is imperative to bear in mind that there may be toxin circulating in the body A large prophylactic injection is consequently necessary, and it should be given in such a way as to ensure that there is no free toxin in the blood at the time of the operation and for some time after Subcutaneous injections, except as supplementary agents, are out of the question here because of the slow rate of absorption If the injection be given intramuscularly, then the operation should not take place for several hours An intravenous injection permits of the operation being performed at once, and as it bears on the question it is of interest to note a statement of Behring's (1915) to the effect that the amount of antitoxin present in 1 c c of blood a few minutes after an intravenous injection of antitoxin remains constant for nearly sixty minutes

Glasgow Medical Journal

December, 1915 LXXXIV, No 6 pp 401 476

8 *Cause and Similarity of Origin of Scarlet and Rheumatic Fever W Watson
9 Two Famous Lanarkshire Obstetricians S J Cameron
10 Action of Medicinal Doses of Lead Acetate F Charteris

8 **Origin of Scarlet and Rheumatic Fever** —The close similarity of complications and sequelae in such diseases as rheumatic fever, scarlet fever and malignant endocarditis suggests to Watson a common factor in their cause He says that every symptom of scarlet fever points to an acute intestinal catarrh, fatal in severity in malignant cases, productive of intense irritation in the ordinary cases, and often in the later stages of such, a condition appears which closely resembles enteric fever In such cases there is a remittent temperature, constipation or diarrhea and rapid wasting which often ends in death He has seen distinct ulceration of the intestine This ulceration differs from enteric or tubercular ulceration in being more irregular, less extensive and attacking the solitary glands as well as Peyer's patches, in cases in which the resulting ulceration has left small shallow pits in the mucous membrane This condition, although not common, Watson believes, justifies the assumption that this portion of the bowel plays a large part in scarlet fever and that it is affected at an early stage The poison of scarlet fever is a rapidly acting one, and among its first manifestations is catarrh of the alimentary tract, in malignant case so acute as to cause death before any other symptom has

had time to appear and in the ordinary cases causing a toxic rash often albuminuria a red glazed tongue, and an inflammation of all the visible lymphoid tissue of the alimentary tract If the resisting power of the patient is sufficient, with the end of the fever resulting from the struggle the invasion may be at an end, but there may be from indiscreet dieting exposure to cold or other causes new developments which often are of a more serious nature These developments are similar to, if not identical with, in many cases, the symptoms of rheumatic fever

There are acute articular painful swellings and a tendency to endocardial and pericardial mischief In other cases nephritis occurs The albuminuria may be simple, and is usually associated with constipation, or there may be actual tissue changes in the kidney and from the presence of such a virulent toxin in the blood and the great tendency to anasarca, it is probable that the malpighian bodies are first affected During this period there is rapid wasting and anemia, thrombosis ulcerative stomatitis sometimes suppuration of the inflamed joints septic ulceration of mucous membranes septic thrombi or emboli causing noma, in short all the symptoms of acute septicemia The blood changes in these three diseases are the same there being a polymorphonuclear neutrophilic leukocytosis in each Watson feels warranted in concluding that in all these cases there is a septic infection of the lymphoid tissues in the region of Peyer's patches In scarlet fever the attack is acute but may be prolonged into a chronic ulcerated condition giving rise to a continuous septic absorption into the blood stream and causing similar changes to those found in rheumatic fever He suggests that chronic rheumatic arthritis in all probability is due to a somewhat similar action, though it causes no rise in temperature

Journal of Pathology and Bacteriology, Cambridge

October 1915 XX No 2 pp 85 213

11 *Histologic and Experimental Observations on Destruction of Tumor Cells in Blood Vessels T Iwasaki
12 *Pathology of Lipomatosis Y Matsuoka
13 Atrophy in Adipose Tissue Histogenesis of Fat Cells Y Matsuoka.
14 *Part Played by Acid of Gastric Juice in Pathologic Processes of Gastric Ulcer C Bolton
15 Pathology of Trench Frost Bite J L Smith, J Ritchie and J Dawson
16 Pathologic Anatomy of Lungs in Beriberi (Kakke) Y Matsuoka

11 **Destruction of Tumor Cells**—Iwasaki examined postmortem forty-eight cases of various kinds of malignant tumor and selected sixteen cases, including eleven cases of sarcoma (seven lymphosarcoma and four other sarcoma), two cases of carcinoma, two cases of hypernephroma and one case of chorionepithelioma-like tumor of the liver for microscopic study The blood-vessel contents of tumor origin are divided into the following groups 1 The first group includes the naked tumor cell emboli These have newly entered into the vessels and are still free in the blood stream 2 To this group belong those tumor emboli with comparatively fresh thrombotic covers These are found either in the blood stream or already fixed to the vessel walls 3 The third group contains those thrombi in which the process of organization is visible. 4 The process of organization advances further The contents of the vessels consist of fibrous tissue with capillaries newly developed, and tumor cells 5 In this group, Iwasaki includes those fibrous contents of vessels in which no trace of tumor cells is now to be seen The organization and tumor cell destruction are complete and the lumina are for the most part reopened by new capillaries, in which sometimes again new tumor emboli are found 6 The tumor cell mass is here covered by a thin layer of endothelium continuous with the intima Iwasaki concludes that the destruction of tumor cells in blood vessels by means of thrombus organization is not restricted to carcinoma, but is common to all malignant tumors The destruction of cells occurs also in blood vessels by direct action of the plasma The thin cell layers that directly cover tumor masses are of endothelial nature, and do not consist of tumor cells When the encapsulation takes place the tumor cells proliferate and the mass is not disintegrated by organization and degeneration In such cases the covering layer of endothelial cells may possibly act as a protection of the tumor cells from the cytolytic action of the plasma

12 **Pathology of Lipomatosis**—Material was obtained by Matsuoka from seventy cases examined postmortem He divides cases of lipomatosis into two large groups In Group 1 the forcing of the increased adipose cells from the surrounding tissue into the affected organ plays a relatively important role, while the proliferation of fat cells in the interstitium of the organ is generally less important The invasion by fat cells can be prevented by a thick fascia or strong capsule Lipomatosis occurs readily in places which are physiologically rich in fat, or in organs with a thin coating or in muscles of all kinds, and in many lymphatic or lymphoid organs, etc In Group 2, lipomatosis follows replacement fibrosis in all cases The fibrous tissue produced through chronic inflammation often shows a tendency to become fat Lipomatosis in this group is the transformation of connective tissue cells in fat cells In Group 1, the increase of adipose cells is primary and the atrophy of the parenchyma occurs secondarily While in Group 2 lipomatosis appears as replacement only, in Group 1 there is invasion of the surrounding tissues, the proliferating fat cells generally passing into the tissue, or, if not, accumulating on its surface and causing pressure atrophy While the organs with lipomatosis Group 1 show pseudohypertrophia in spite of the atrophy of their parenchyma, those with lipomatosis, Group 2 usually prove to be at most only of normal size and are often subnormal in bulk

While the lipomatosis, Group 2, accompanies fibrosis, in Group 1 there is destruction of fibrous tissue to be observed, in the heart, Group 1, occurs more frequently in the right ventricle while Group 2 occurs chiefly in the left ventricle While cases of general obesity always show lipomatosis of Group 1 Group 2 takes place in emaciated persons Heart lipomatosis of Group 1, which occurs constantly in cases of general obesity, is observed also as a local lipomatosis, which does not disappear in spite of general emaciation, the definition of so-called fatty heart—that it occurs only in fat subjects and not in others—is on this account incomplete In a series of cases the degree of invasion of the myocardium through lipomatosis in different parts of the heart, is quite parallel with the degree of thickness of the epicardial fat in loco In cases of lipomatosis showing marked atrophy of the parenchyma regenerating processes are often seen in the parenchyma, for example, the direct nuclear division is skeletal muscle of heart muscle The enlargement of Langhan s islands in lipomatosis of the pancreas is an example of compensatory hypertrophy Active hyperemia and a rich supply of blood vessels are generally associated with lipomatosis The causes and the seats of lipomatosis are other than those of fatty degeneration, and usually lipomatosis occurs without the accompaniment of marked fatty degeneration

14 **Pathology of Gastric Ulcer**—Bolton states that the gastric juice is not only concerned in the initiation of a gastric ulcer, but also in its tendency to spread and to become chronic It is thus responsible for the anatomic peculiarities which distinguish this ulcer from ulcers in other parts of the body The gastric juice owes its destructive power primarily to the hydrochloric acid contained in it, and the damage done to the wall of the stomach varies in proportion to the strength of the acid present Although the hydrochloric acid is usually only a factor in the initiation of an ulcer some damage being also inflicted on the gastric cells by other means, it is occasionally, when of a percentage of 0 39 and upward and combined with motor insufficiency, the actual cause of the ulcer The spread of an ulcer is due to persistence of the original cause, but it is more likely to spread when the gastric juice is hyperacid than when of normal acidity The gastric juice is able to attack the connective tissue base of an ulcer by virtue of the hydrochloric acid contained in it, and when hyperacid, to produce various degrees of delay in the healing of the ulcer as a consequence This effect is added to when retention of food in the stomach or hypersecretion of the gastric juice is present

In this way may be explained the condition of delayed healing of acute ulcer in man

Bolton suggests that it is probable that in human pathology a complete arrest in healing and a resulting chronic ulcer may be similarly brought about, since the experimental methods available for producing hyperacidity are not so effective as the condition present in man An ulcer heals with difficulty in proportion to its chronicity, and the more chronic ulcers may be kept open by the normal gastric juice An important point in favor of this view is the similarity between the two conditions The experimental ulcer is delayed in healing by the necrotic condition of its base, brought about by the hydrochloric acid, and it is precisely the fibrotic base covered with necrotic tissue which prevents the healing of human ulcer The treatment aimed at reducing the acidity of the gastric contents and facilitating the emptying of the stomach is that which is successful in healing a human gastric ulcer Associated with chronic gastric ulcer in the human subject are commonly the two conditions (1) hyperacidity and (2) gastritis The association of the three conditions has in the past given rise to much speculation with regard to the relation which they bear to one another It is proved by Bolton's experiments that continued hyperacidity gives rise to gastritis, and, on the other hand, it is well known clinically that if gastritis affects the acidity of the gastric juice the latter is diminished

Bolton says it seems reasonable, therefore, to assume that the hyperacidity precedes the gastritis and causes it Gastritis in ulcer may of course be due to irritants in the food, but the regularity of its occurrence suggests that some constant factor is usually its cause It is obvious that a gastric ulcer does not give rise to diffuse gastritis, and it is equally obvious from these experiments that follicular ulcers, occurring as a part of gastritis, cannot become chronic by continued hyperacidity Diffuse gastritis, therefore is neither the cause nor the effect of the ulcer, but results from the irritant action of the hydrochloric acid, or perhaps in other cases from one of the well-known causes of the affection It is evident that hyperacidity is concerned as a factor in each of the pathologic processes of gastric ulcer, and, on the other hand, although it has been suggested, proof has never been afforded that an ulcer gives rise to hyperacidity

Journal of Tropical Medicine and Hygiene, London

December 1 1915, XVIII No 23, pp 265 276

17 Streptococcus Equinus Septicemia in Anglo Egyptian Sudan A J Chalmers and G Haddad
18 Castellani's Bronchospirochetosis, Report of Case G A Lurie
19 Case of Malarial Fever with Motor Paralysis of Legs W H Heard

Lancet, London

December 11, 1915 II, No 4815, pp 1283 1330

20 Review of Modern Gynecologic Practice V Bonney
21 Cases of Traumatic and Arteriovenous Anastomosis G A Wright
22 Diagnosis and Treatment of Mediastinal Pleurisy L Renon
23 Clinical Results of One Thousand Intravenous Injections of Galyl H Spence
24 Epidemic of Jaundice Occurring at Alexandria E B Gunson and J W C Gunn
25 Pneumosan in Treatment of Pulmonary Tuberculosis A E A Carver
26 Development of Oocyst of Human Coccidium, An Addendum C M Wenyon

Annales de Gynécologie et d'Obstétrique, Paris

November December, 1915 XI, Nos 11 12 pp 669 727

27 *Care for Child Welfare in Paris and Vicinity During the Early Months of the War A Pinard
28 *Is Partial Resection of Sclerous Ovaries Justified? J P de Figueiredo Commenced in No 7

27 **Child Welfare Work in Paris**—This article appeared elsewhere and was reviewed in these columns April 3, 1915, p 1197

28 **Partial Resection of the Ovaries**—Figueiredo describes the microscopic findings in the resected portion of the ovary from a large number of operative gynecologic cases The work supplements a previous report from the same clinic describing twenty-three ovaries The final conclusions are thus based on microscopic and clinical study of sixty one ovaries corresponding to fifty operative cases The vitality of the follicles was found impaired as a rule and abnormal findings in the stroma were constant, with a single exception Hemorrhagic foci, cysts in the corpora lutea, islets of interstitial cells, and other morbid changes were frequent They justify resection when the ovary is seen to be sclerous or sclerocystic, as there is reason to assume that the changes would progress or entail other lesions Resection is thus indicated, and the more so as the procedure seems to be absolutely harmless In most of the cases cited the resection was done in connection with an operation for fibroma or salpingitis For example, a woman of 35 had disease of the right ovary and tube, which were removed, as also a fibroma in the anterior wall of the uterus The left ovary was enlarged, hard and cystic, and located very low down Part of this ovary was resected, and the stump fastened to the parietal peritoneum, the uterus to the abdominal wall The outcome has been excellent

Bulletin de l'Académie de Médecine, Paris

November 30, 1915, LXXIV, No 48 pp 595 662

29 Localized Abnormal Tetanus, Seven Cases A Routier
30 The Respective Roles of Mechanotherapy and Orthopedic Surgery in Restoring Function to Stiff Joints (Des raideurs articulaires et des ankyloses consécutives aux blessures de guerre.) E. Delorme
31 Educating Blinded Soldiers to Write (L'éducation des aveugles par blessures de guerre) Monprofit.
32 Extraction of Projectiles in the Pericardium or Heart O Laurent, (Extraction d'une balle dans l'oreillette droite du cœur) Couteaud and Bellot.

Paris Médical

Oct 16, 1915 V, No 23 pp 389 404

33 Effects of Asphyxiating Gases and Treatment. F Rathery and R Michel
34 Curative Action of Antitetanus Serum G Milian and Lesure
35 *Rest and Moist Heat in First Treatment of the Wounded (Aperçus sur le traitement des blesses dans une ambulance de premiere ligne) M de Laroquette.

October 23, Nos 24 25, pp 405-448

36 Legislation Against Depopulation G Linossier
37 Commotion from Explosion and Its Consequences for the Nervous System P Sollier and M Chartier
38 Psychiatry in the Active Army P Chavigny
39 Simulation of Nervous Affections, Simulation Continued After Recovery from Actual Nervous Affections, Simulation of Deaf and Dumbness J A Sicard
40 Posttraumatic Contracture and Surgery in War L Duvernay
41 Prognosis of Fracture of the Skull by Projectile F M Cadenat
42 Organic Paraplegia from Explosion of Large Shell Without External Wound C Joubert

35 **The Ambulance Near the Firing Line**—Laroquette gives a number of photographs of field hospitals and sorting stations only a few miles from the firing line, and describes his own experiences in one of the ambulances near the front The method of treating the wounded which has given the best results in his hands is to apply a large dressing dipped into a very hot 1 per thousand solution of permanganate or a 3 per cent solution of sodium bicarbonate The relief of pain under this moist heat is marked The man is kept under strict surveillance as he is in bed the wounded region immobilized, and wrapped in this voluminous moist dressing If local or general signs of infection are detected within twenty-four to forty-eight hours, then the wound is thoroughly cleared out This became necessary only in 30 per cent of the seton cases and in 80 per cent of the fracture cases In order to have this method applied it is necessary that the wounded should be kept at the ambulance for a few days The rest is good for the wounded, they do much better when they can be left in peace in a bed or on a pile of straw, with a little morphin, soup and milk, and allowed to sleep off the first effects of the shock they have undergone Even with the marvels of the hospital train, the "transportable" wounded do better for a few days of repose, and Laroquette urges that school and farm buildings, factories or villas should be set apart for the wounded in sufficient numbers to permit this armed expectancy during the first few days

Revue de Gynécologie et de Chir Abdom, Paris

August 1914 XXIII No 2 pp 97 208

43 Eight Years of Abdominal Hysterectomy for Cancer of Uterine Cervix A Maurer
44 Pain in Left Side with Appendicitis as Sign of Rupture of Pelvic Abscess (Cas d appendicite avec point de cote gauche) R Proust and L Paris
45 Primary Cancer in Appendix of Young Woman X Bender

June 1915 No pp 209 272

46 *Restricted Hysterectomy Completed by Radium Exposures in Treatment of Uterine Cancer Six Cases S Pozzi and G Rouhier
47 Tuberculous Nodule in Breast X Bender

October 1915 No 4 pp 273 352

48 *Mishaps with Tubal Pregnancy (Accidents de la grossesse tubaire) C Lenormant and G Hartmann

46 **Partial Hysterectomy Plus Radium Therapy for Uterine Cancer**—Pozzi and Rouhier analyze the literature on the simultaneous application of operative measures and radium therapy, and report six cases from Pozzi's service They regard this combination as very promising vaginal hysterectomy plus radioactive drainage yielding results in the long run surpassing those of the more extensive abdominal operations which have such high operative mortality

48 **Tubal Pregnancy**—Among the thirty-seven cases related here in detail there was a history of genital lesions preceding the abnormal pregnancy in fully a third of all the cases The cases demonstrate anew that the first hemorrhage in such cases is rarely fatal There are generally several periods of hemorrhage Metrorrhagia was common in these cases and simulated an ordinary abortion This led to the blunder of curetting the uterus in one case In eleven cases there was an encysted hematocele palpable as a tumor, soft or hard and in the infected cases there was fever In two cases the interval since the hemorrhage was probably two months and even at this late date the hemorrhage may start up anew during the operative maneuvers In one case a residual abscess in the pouch of Douglas testified to the dangers liable with conservative surgery This case is interesting as an example of recurrence of tubal pregnancy on the other side

Berliner klinische Wochenschrift

Nov 29 1915 LII No 48 pp 1225 1248

49 *Origin and Cure of Itching (Kriegsaphorismen eines Dermatologen Entstehung und Beseitigung des Juckens) P G Unna Commenced in No 42
50 Camp Diseases and Importance of Contact Infection (Ueber die Kriegsseuchen) Menzer To be continued
51 *Tests of the Functional Capacity of the Heart (Zur Funktionsprufung des Herzens) Rehfisch
52 Localization of Anatomic Parts with the Roentgen Rays M Levy Dorn.

49 **Cause and Treatment of Itching**—Unna states that recent research has explained the mechanism of itching It results from irritation of the free nerve terminations in the blood capillaries in the papillary layer Cocain and epinephrin abolish itching and pain, but leave the sensation of touch unimpaired while saponin banishes the latter but does not modify pain and itching In order for itching to occur therefore, there must be papillae containing blood vessels and a horny layer above, as otherwise there is no pressure on the vascular papillae It is impossible to induce itching in the surface of an ulcer and of granulations, but as they heal over and epidermis forms, and as the horny layer presses on the granulations, the region itches until the pressure of the capillaries and of the horny layer reaches a balance. If a blister forms, itching ceases, so that continuity between the horny layer and the papillary blood apparatus is necessary for itching to occur

Whenever the pressure of the horny layer increases along with the capillary pressure, itching follows Hence there is itching with dry eczema, lichen and prurigo papules, and incipient folliculitis and furuncles Simple thickening of the horny layer, without increased capillary pressure, does not alone entail itching But when the temperature changes, and thus a change in the capillary pressure is brought about, the region may begin to itch Salicylic acid soaps, etc relieve itching by their action on the epidermis, as they soften it the pressure on the tissues below grows less Itching can be combated also by reducing the pressure in the capillaries, as with epinephrin or cocain, electricity, or withdrawal of blood by venesection, or by scratching The blood can also be driven out of the capillaries by pressure from without, as with collodion, elastic stockings, binders, plasters and bandages On the other hand, the release from the pressure of the clothes, in undressing, may start varicose veins to itching by the gravity hyperemia that follows, bringing increased pressure in the capillaries

Anemic surfaces never itch but when the Esmarch bandage for instance, is removed there is liable to be itching, as also after the skin has been chilled The cold contracts the vessels the veins yield to it more readily than the arteries on account of the higher pressure in the latter The consequence is a slowing of the blood stream and actual stasis hyperemia in the region chilled As the region warms up the capillaries become distended and press against the horny layer thus inducing irritation of the nerve terminations and itching is liable to follow, as when the skin of the face or hands itches when we enter a warm room or settle down in bed Warmth does not induce itching unless there has been previously a stasis hyperemia He says further that the itching that accompanies the hot flashes of the menopause can be arrested along with the hot flashes, by cold compresses as this reduces the supply of blood to the paralyzed musculature of the arteries Cold applications however, increase the itching after frost bite, as the cold causes the musculature of the skin to contract and thus increases the resistance of the epidermis to the capillary pressure below

When the horny layer has become thickened from disturbances in its blood supply from contracture of the musculature of the skin, as in lichen and prurigo, the horny layer exerts great pressure Then if at any point beneath it the arterial walls become paralyzed, so that there is excessive inflow of blood or if there is inflammatory exudation, the resulting itching is the severest and most tenacious we know

[This article on 'Itching" seems to have been continued in five installments Four of the November numbers of the *Wochenschrift* have failed to arrive, but we summarize as above the three installments received A review of one of the missing numbers in another exchange states that Unna commends monochlorbenzol as a very effectual and nontoxic means to relieve the conditions which cause itching He uses it in a 1, 2 or 5 per cent alcoholic solution, adding 2 per cent castor oil if the skin is very dry]

51 **Tests of the Functional Capacity of the Heart**—Rehfisch strives to learn by auscultation whether or not the pressure in the aorta is sinking while it is rising in the left atrium We know that this occurs in animals when the left ventricle is becoming insufficient When a healthy person exercises his knees ten times a larger amount of venous blood flows into the right auricle and there is force enough to pass on the whole quantity, the left ventricle also expels it all in turn and normal conditions prevail again This is manifested in the aortic sound ,being louder than the second pulmonic sound This occurs because the pressure in the arterial system is about a third higher than in the pulmonary Hence the louder aortic sound testifies to a functionally capable heart after this standard knee-bending exercise If the left ventricle is unable to expel all the blood wave, some blood is left behind and passive dilatation follows the blood pressure drops and the second aortic sound becomes less accentuated Comparison with the findings with the Katzenstein and other tests of heart functioning always confirmed the reliability of this attenuation of the second aortic sound as the most pregnant sign of insufficiency of the left ventricle If it is unable to expel all its contents, the auricle is unable to force all its contents into the ventricle, and the auricle becomes over-distended and the blood pressure within is forced higher and higher If the right ventricle is still normally capable, it is able to overcome this increased resistance in the left auricle but the extra effort it makes to accomplish this is evident in the accentuation of the second pulmonic sound It becomes louder than the second aortic sound, contrary to the normal findings

When this is the case, we can assume that the right ventricle is going to be able to compensate to a certain extent for the deficit in the left ventricle's functioning If the right ventricle is unable to do this, it dilates and the second pulmonic sound grows weaker The prognosis is correspondingly graver

Rehfisch adds that when the vasomotor center is inclined to be unstable, the first aortic sound is usually considerably louder than the second This center may be injured by toxic influences or by concussion, and it may induce constriction of the vessels instead of the normal and beneficial dilatation, constriction not only of the peripheral but of the coronary vessels Evidence of the latter is the pain in the chest region, similar to angina pectoris "This assumption requires confirming with the plethysmograph" Arteriosclerosis detracts from the import of the auscultation findings Monckeberg found evidence of arteriosclerosis in 43 per cent of 53 cadavers of soldiers between 20 and 30, *not only* of the aorta but often of both coronaries, and especially of the left This presclerosis is thus much more common among young soldiers than hitherto supposed and it should be borne in mind in the study of heart affections of the type we usually classify as purely nervous It is difficult to detect, as there may be no hypertrophy or high blood pressure, but roentgenoscopy often reveals pronounced enlargement of the entire arch of the aorta

Medizinische Klinik, Berlin

No 7 1915 XI, No 45, pp 1225 1252

53 *Typhoid Disturbance in Hearing (Die Typhusschwerhörigkeit) Rhese
54 Lacunar Hyperkeratosis E Urbantschitsch
55 Typhus in Prisoners' Camp (Ueber Fleckfieber) O Muller To be continued
56 Stomach Wounds Absolutely Fatal Without Operative Treatment (Die Prognose der Magendarmschüsse ist ohne Operation absolut schlecht) Böhler
57 Extension with Triangular Support for Fracture of Upper Arm W Burk
58 Artificial Light in Treatment of Wounds, Especially Wounds in War (Behandlung von Wunden unter bes Berücksichtigung von Kriegsverletzungen mit kunstlichem Licht) Breiger

53 Typhoid Deafness—Rhese does not mention the number of cases of typhoid in his service but he states that there was bilateral deafness in 14 9 per cent *with the* middle ear intact In 4 per cent there was otitis media with perforation, and without perforation in 1 1 per cent There figures do not include the cases with transient deafness In all his cases the deafness was bilateral It developed usually in the second, third or fourth week but sometimes as late as the seventh It subsided completely as a rule in time, but in some cases left permanent deafness Any measures that reduce the toxic action of the disease aid in dispelling the deafness, and consequently the otologists are watching with interest the attempts to treat typhoid with vaccines Mild courses of pilocarpin gave favorable results, as also sodium iodid as soon as the intestines could bear it When symptoms indicated pressure, lumbar puncture aided in combating meningitic symptoms and also the otitic Vaccination against typhoid has reduced the frequency and the severity of complications on the part of the ear The deafness is of five different types, as he explains in detail, discussing the prognosis with each form of neuritis or labyrinthitis

Munchener medizinische Wochenschrift, Munich

Nov 23, 1915, LXII, No 47, pp 1597 1632

59 *Transfusion of Own Extravasated Blood (Eigenbluttransfusion bei Extrauteringraviditat und Uterusruptur) Lichtenstein
60 Peculiar Action of Minute Proportions of Copper (*Die oligo dynamische* Wirkung des Kupfers) K Spiro
61 *The Mercury Vapor Lamp in Treatment of Skin Disease (Ueber therapeutische Erfolge mit der Quarzlampe) G Stumpke
62 Cure of Cancroid of the Vulva with Zeller's Caustic Paste Plus Silicic Acid Internally (Heilung eines Vulvakarzinoms mit dem Zellerschen Verfahren) W Reusch
63 Holder for Slides (Behalter zum Aufheben der Objektivtrager) H L Heusner
64 Advantages of Combining Vaccination Against Both Typhoid and Cholera G Seiffert
65 Injury of Vision from Wounds in War (Beurteilung der Kriegs verletzungen des Sehorgans) L Schreiber
66 Neurotic Alopecia Areata in Wounded Soldier A Pöhlmann
67 Means to Restore Functioning after Wounds in War (Zur Prophylaxe der Deformitaten) Nieny, (Zur Mobilisierung ver steifter kleiner Gelenke) W Goebel, (Einfache Handstutz schiene) Langemak, (Apparate zur Verhütung und Behandlung der Spitzfussstellung und zur Extensionsbehandlung der Unter schenkelfrakturen) K Alexander
68 *Epinephrin in Local Treatment of Wounds (Beeinflussung der Wundheilung durch Suprareninlösung) A Wildt.
69 *Renal Tuberculosis in the Troops (Nierentuberkulose bei Feld zugsoldaten) C Schneider
70 Sterilizing Newspapers for Surgical Work (Verwendung steriler Zeitungen für Operationszwecke) G Rüdiger
71 Impressions of a German Physician in Moscow during the Last Year (Ein Jahr ärztlicher Kriegseindrucke in Moskau) *Anon.*

59 Autotransfusion of Blood After Severe Gynecologic Hemorrhage—Lichtenstein comments on the old view that the death from hemorrhage was due to the lack of sufficient oxygen bearers in the blood left, *not* enough to supply sufficient oxygen to the nerve centers, especially the respiration center A newer view ascribes the fatality to the loss of fluid, the heart is unable to functionate with a much smaller volume of circulating fluid, and transfusion of 100 or 200 c c of blood does not help much after losses of 1,000 or 1,500 c.c. of blood Saline infusion is relied on to restore the circulating fluid to approximately its former bulk, but this does *not* restore its former composition to the blood and does *not* always ward off death after severe hemorrhage Some even assert that the extreme dilution of the blood may be actually responsible for the fatal outcome

In gynecology, extra-uterine pregnancy and rupture of the uterus are the main causes of the hemorrhages which prove fatal He had two fatalities from a ruptured tubal pregnancy in 1913 and 1914, although both women were operated on almost at once Since then he has adopted J Thies' suggestion to collect the fluid blood in the abdomen and, after diluting it 3 2 with salt solution, to reinject this into the patient Thies thus saved three pulseless women, reinjecting their own blood into the subcutaneous tissue of the thigh, a vein in the arm, or a vein in the mesentery The pulse rapidly regained tone and there was no fever Lichtenstein has been equally successful with this method of "own blood transfusion" in seven cases of extra-uterine pregnancy and one of rupture of the uterus In four, at least, of the cases the condition seemed to be as grave as in the two fatal cases described from the preceding years, and there is every reason to assume that the reinjecting of the patient's own blood enabled them to weather the storm All the patients thus infused recuperated remarkably fast No chill followed the transfusion in any instance, and the general condition improved so much that no physician would have guessed that the patient had just had a severe internal hemorrhage. None of them complained of weakness when they got up by the eighth day The abdominal cavity in a previously healthy woman can be regarded as sterile in cases of fresh hemorrhage from a ruptured tubal pregnancy This is dubious with a ruptured uterus, in the one case of this kind the rupture occurred in a cesarean cicatrix and the bag of waters was still intact The bleeding came from a part of the placenta that had been torn loose Even when conditions are less favorable than this, the question of reinjecting the loose fluid blood should be considered There have been six fatal cases of this kind at the clinic recently

The blood is ladled out of the abdominal cavity into a wide jar containing a little Ringer's fluid It is then beaten with little sticks, and strained into a vessel containing enough warm Ringer's solution to bring it to the proper dilution The vessel is then set in a water bath while the abdominal operation is being concluded The blood mixture is then allowed to run into a vein in the left arm from a glass funnel and tube In the exsanguinated it is difficult to locate the vein, he seeks it through a transverse incision, then loosens the tissues above and below with the back of the knife, and lifts the vein with two catgut threads passed beneath it with an aneurysm needle He has recently devised a valve apparatus on the principle of the syringe used for injection of salvarsan, and has found this a great improvement over the rather primitive funnel technic

61 Therapeutic Success with the Mercury Vapor Lamp—Stümpke has been using both the Kromayer quartz lamp and the lamp known as the artificial mountain sun *(Quarzlampe und künstliche Hohensonne)*, and has applied this form of radiotherapy in new fields and with promising results The itching in refractory prurigo and pruritus was materially reduced by repeated exposures to the quartz lamp while clinical improvement was evident in other ways He has often seen cases rebellious to arsenic, Roentgen and other measures yield surprisingly to the quartz lamp He has had the same experience with neurodermitis, and in a number of cases of subacute and chronic eczema on a constitutional and seborrheic basis In the latter group the ultraviolet rays seem to modify the tissues in some way which permits the ordinary measures then to display their efficacy Rheumatism and sciatica are also favorably influenced He applies the lamp at a distance of 50 cm for ten or twenty minutes for exposure of a large surface

68 **Epinephrin in Local Treatment of Wounds**—Wildt relates that he has been using since 1910 a 1 100 000 solution of epinephrin applied directly to granulating surfaces, and states that this keeps the granulations soft and velvety as they consist mostly of newly formed blood vessels He has continued this method of treating wounds during the war, and has applied it in the last six months to 421 wounded soldiers There were never any injurious by-effects and the wounds made a better showing than those treated by hot air, scarlet red, ultraviolet rays etc

69 **Tuberculosis of the Kidney in Soldiers**—Schneider protests against the too frequent overlooking of tuberculous nephritis Men are treated for weeks and months for supposed catarrh of the bladder and precious time is wasted before the true trouble is diagnosed He impresses on physicians that every long continuing case of catarrh of the bladder in the young with the urine findings he describes should be regarded and treated as of tuberculous origin until the contrary is proved Even the suspicion of renal tuberculosis, with the symptoms of catarrh of the bladder is a long step toward the correct diagnosis The patient notices unusually frequent desires to urinate day and night and during or after micturition there are pains in the perineum or lower abdomen and occasionally a drop of blood shows in the urethra afterward There is usually a history of tuberculosis in the family and of some slight pulmonary catarrhal process or attack of costal pleurisy as a child The amount of urine voided may be above the normal, from 2 to 3 liters a day are not unusual, and the single portions are larger than with gonorrhea The urine is more regularly turbid not flaky or creamy, sometimes it is bloodstained, but the odor is normal The microscope shows in the unstained specimen numerous leukocytes and occasional fresh red cells, but no bacteria If there are peculiar long narrow epithelium scraps in large numbers, tubercle bacilli must be sought with a staining technic examining specimen after specimen Animals can be inoculated, but this often fails under these circumstances A small provocative injection of tuberculin will often drive out tubercle bacilli so they can be found in the urine in the next few days The tubercle bacilli are slenderer than smegma bacilli, and sometimes they lie crossed or one above another

Renal tuberculosis is of more common occurrence than generally surmised, and hitherto latent cases flare up under the stress of the campaign Injection of indigo carmin generally shows which side is affected, even without catheterization of the ureters Another differentiating procedure is tentative treatment of the bladder with a silver nitrate solution This improves the catarrhal condition in the bladder if it is of simple gonorrheal origin, while it aggravates tuberculous processes

Therapeutische Monatshefte, Berlin

November 1915 XXIX No 11 pp 589 644

72 *Modern Treatment of Eclampsia P Werner
73 *Treatment of Acute Empyema R Massini
74 Radiotherapy at the Breslau Gynecologic Clinic. (Die physikalischen technischen und klinischen Grundlagen der Strahlentherapie der Breslauer Frauenklinik.) F Heimann
75 *Test for Adsorbent Properties (Neue Methode zur Prufung des Adsorptionsvermogens von Tierkohle und anderen Adsorptionsmitteln) M Guggenheim

72 **Modern Treatment of Eclampsia**—Werner reviews the experiences at the second gynecologic clinic of the University of Vienna He emphasizes certain facts which testify against the assumption that the fetus or placenta is the source of the severe intoxication of practically all parts of the body which we know as eclampsia Among these negative proofs are the occurrence of eclampsia with a hydatidiform mole and no fetus, and its development in the puerperium after fetus and placenta have been expelled Most convincing of all are the so-called intercurrent cases during a pregnancy in which the eclampsia subsided while the pregnancy continued its course For these and other reasons it is no longer regarded as necessary to empty the uterus as the first and indispensable measure in treatment of eclampsia as was formerly the rule at the clinic Since this has been abandoned, in 120 cases the maternal mortality was 15.8 per cent and the fetal mortality 44 3 per cent up to 1913 Since then there have been 38 cases of eclampsia and the mortality has been only 5 2 per cent among the mothers and 14 65 per cent among the children The routine treatment is now to isolate the eclamptic at once in a darkened, absolutely quiet room The obstetric examination is made under slight general anesthesia during which the urine is drawn with a catheter for examination Venesection then follows, drawing from 400 to 600 c c of blood, followed by injection of 0 02 gm morphin and two hours later, 3 gm chloral in an enema If the fetus presents in a position favorable for prompt delivery, the child is taken with forceps or by expression in order to spare the patient the stress of the labor contractions The venesection may have to be repeated, and the morphin and chloral continued, if diuresis is not adequate it is stimulated It has never been found necessary to resort to decapsulation When the eclampsia develops during pregnancy, delivery is brought about with a bougie or is accelerated with the inflatable bag

73 **Treatment of Empyema**—Massini emphasizes the importance of the after-treatment for the outcome of the case More depends on this, he declares, than on the primary operation, and it has to be individualized for each case He gives the details of seventeen cases including four with fatal outcome from cancer or pulmonary tuberculosis The method followed was a simple puncture, using a trocar with an inner diameter of 7 mm followed by aspiration drainage according to Perthes The pus seems to be the thickest with staphylococcus empyema, and it is most fluid with putrid empyema from anaerobic infection It is important to bear this in mind as the heart is affected most in this latter type and is liable to be displaced by gas, so that sudden reduction of pressure might be perilous After puncture and aspiration of the pus one is justified in waiting for three or four days to see if the empyema becomes spontaneously absorbed If not the drain which he has introduced for 20 to 30 cm is connected with a water jet, interposing a self-regulating manometer He uses an ordinary cylindrical jar for this, with three openings in the stopper, one for the right angled tube connected with the drain, another connected with the water jet The third is a straight and open tube in the center of the stopper extending down for about 6 cm into the water with which the jar is half filled

As the empyema is seldom primary, the underlying process must be discovered and remedied, aside from this, the mechanical factors generally determine whether healing is to take days or weeks When the outflow stops, the trouble is generally not in the drainage system but inside the chest When nothing else helps to start the outflow he flushes out the empyema cavity with a 1 5,000 solution of potassium permanganate under low pressure, not pouring in more than 10 or 20 c c at a time, but continuing this until a few hundred c c have thus been introduced and the fluid is then allowed to flow out He warns that the opening grows up so fast that it is best not to take out the drain In one of his cases an intercostal artery became eroded but the hemorrhage was arrested by tamponing and a new opening made for the drain Development of adhesions later is warded off by the care to have the lung expanded to the utmost Pains in the joints are usually of toxic origin and may yield to the salicylates unless there is metastatic suppuration He allows the patient to get up when there is no further fever and not more than 5 c.c. fluid drains away. At this time or even earlier the water jet may be disconnected at night. Later, the drain tube may be shortened and the water jet connection applied only for a few hours, but with a higher negative pressure, up to 20 cm. water. It is time then to start breathing exercises and gymnastics. What can be accomplished by the latter measures is illustrated by one of his cases in which a fistula had persisted for a year after resection of ribs for an extensive empyema with several pockets. The side of the chest now expands and is movable nearly to the same extent as the sound side. These exercises for the lungs also ward off secondary trouble in later years, and preexisting lesions are favorably modified. He regards Roentgen examination and control as especially important.

75. **Tests for Adsorbent Capacity.**—Guggenheim applies Magnus' experimental technic which records the movements of the guinea-pig intestine outside of the body when the bowel is treated with a chemical substance, before and again after it has been mixed with blood charcoal or other adsorbent substance. The action on the bowel of the chemical in question is annulled if the chemical is fully adsorbed. He has found beta-imidazolylethylamin particularly adapted for the purpose of the test.

Wiener klinische Wochenschrift, Vienna

Nov. 4, 1915, XXVIII, No. 44, pp. 1185-1216

76 *Epileptic and Hysteric Seizures Brought on by Brief Test Compression of the Carotid Arteries. C. Tsiminakis.
77 *Skin Reaction Indicating Protection against Typhoid. (Diagnostische Hautreaktion bei Typhusrekonvaleszenten, Typhuskranken und Schutzgeimpften mit "Typhin" nach Gay and Force.) E. Pulay.
78 Differential Importance of the Hemolysin Reaction in the Cerebrospinal Fluid in Meningitis. (Weil-Kafka'sche Reaktion.) G. Salus.
79 Relations between Ozena and Disease of the Nasal Accessory Sinuses. L. Rethi.
80 Mechanical Devices to Aid in Overcoming Consequences of Wounds in War. (Heilgeräte für Folgen nach Kriegsverletzungen.) F. Riedl. Commenced in No. 43.
81 Adaptation of Farm Wagons for Carrying Several Reclining Wounded. (Zur Frage des Verwundetentransportes in der vorderen Linie.) F. Tintner.

November 25, No. 47, pp. 1273-1308

82 *Industrial Skin Lesions in Workers on Munitions. (Hautschädigungen in Munitionsfabriken mit bes. Berücksichtigung der Quecksilberwirkung.) M. Oppenheim.
83 *Streptococcus Lacticus Enteritis. (Kokkenenteritis.) R. R. v. Wiesner.
84 Histology of the Exanthem in Typhus. J. Kyrle and G. Morawetz.
85 *Antitoxin Production during Tetanus. (Zur Tetanusimmunität des Menschen.) O. Löwy.
86 Principles for Apparatus to Restore Functioning after Wounds in War. (Heilgeräte für Folgen nach Kriegsverletzungen.) O. Bum.
87 Operations on a Hospital Train. (Zur Frage eines Operationswagens auf einem Spitalzuge.) V. C. Irk.
88 Suggestions to Improve Equipment for Field Hospitals. (Vorschläge für Reformen in der Ausgestaltung des chirurgischen Apparates der Feldsanitätsanstalten.) P. Odelga.

76. **Compression of Carotid in Relation to Epilepsy and Hysteria.**—Tsiminakis assumes that the casual slight internal or external irritation which brings on the epileptic seizure does this by inducing some momentary functional disturbance in the epileptic focus, and it is during this disturbance that the seizure occurs. If this be true, then artificially inducing such a similar transient disturbance in the circulation in the epileptic focus would induce the same functional disturbance and be liable to bring on a seizure. The disturbances in question cannot be of the nature of hyperemia as Bier has never witnessed an epileptic seizure brought on, even in epileptics, by the constricting band around the neck to induce local hyperemia. There is considerable evidence which indicates that deprival of the normal supply of blood modifies the epileptic focus enough to bring on seizures, and Tsiminakis found this assumption confirmed by his experiments on epileptics, hysterics, and normal controls. His aim was to induce transient anemia in the brain by compressing the carotid arteries. He applied his thumbs to the arteries with sudden force, to shut off abruptly the circulation in the part of the brain nourished by the carotid arteries. In thirty healthy persons momentary unconsciousness followed the compression, usually in about half a minute. He never kept up the compression for longer than a minute. The unconsciousness noted in the healthy was accompanied by complete relaxation of the entire musculature, the head drooping to the side or forward. This brief compression of the carotids was applied further in 116 patients, mostly epileptics. The epileptics became unconscious more quickly than others, at latest, in thirty seconds, and the onset of the unconsciousness was followed at once by epileptiform convulsions or local spasms, struggling and kicking movements for from ten to forty seconds; later these were followed by the characteristic fixed stare such as is seen toward the close of an epileptic seizure and in cases of epileptic somnambulance (*Absenz*). The patient came to himself in from one to five minutes, and then complained of oppression in the head, dizziness and depression of varying intensity, as with spontaneous seizures. The healthy complained only of momentary dizziness after their brief loss of consciousness while the carotids were compressed; consciousness returned at once as the carotids were released from the pressure. In seven cases of jacksonian epilepsy there were local spasms in the group of muscles involved, followed by tingling and tremor as with the spontaneous spasms. In forty-two cases of hysteria the compression of the carotids brought on a typical hysteric convulsion in all; suggestion was excluded. Pressure at other points never induced the convulsions.

He says in conclusion that the epileptic seizures induced by the anemia from compression of the carotids are never as long nor as severe as the spontaneous seizures in the same patient, but they are so characteristic that they are of great moment for the differential diagnosis, as well as for the pathogenesis and mechanism of the seizure and possibly may afford a basis for treatment.

77. **Skin Reaction Indicating Protection Against Typhoid.**—Pulay gives summaries of the response to the skin test with typhoidin in 28 healthy persons, 6 typhoid patients, 35 convalescents, 39 men vaccinated against typhoid and 5 who had a history of typhoid long ago. This experience confirms the statements of Gay and Force in regard to the differential value of this skin reaction.

82. **Industrial Affections from Manufacture of Munitions.**—Oppenheim comments on the increase in industrial skin affections in Vienna since the beginning of the war. In the leather, canning, textile and laundry industries they have attracted attention but they are most marked in the workers manufacturing munitions. One reason for this is that unaccustomed workmen are employed, and even quite young girls and women, whose skin is more sensitive to injury. The skin affections encountered in those making explosives, bombs, shrapnel and grenades all bear such a common likeness they must be regarded as occupational affections. The most interesting are those resulting from poisoning with mercury in the manufacture of shells (*Zündkapseln*). Besides acute dermatitis of the face and hands, the workers present the syndrome familiar from mercurial poisoning in therapeutic administration. The mercurial poisoning manifested itself first as a redness of the face and back of the hands followed by more or less pronounced edema of the face. There was seldom any severe dermatitis unless other irritating substances were handled. On suspension of the work all the phenomena subsided in a week or two. He tabulates the details of 26 cases of this kind. In 5 cases the dermatitis was accompanied by pustules or blisters. In 10, there was stomatitis which progressed to ulceration only in one case. In 6, mercury was found in the urine. In 18 cases the work was the production of mercury explosive (*Knallquecksilber*); this work was done with moisture; in 3 the workers had been making powder (*Schwarzpulver*), and the disturbances were milder. In 5 other cases the workers had had to clean and polish metal articles with petroleum, acids, turpentine, benzol or ammonia. Cooperating factors were the use of alcohol, antimony, potassium chlorate, solution of glue and nitric acid. The finger nails of some showed characteristic changes from the effect of the acid in lifting the shells out of the cleansing solution. The hands of those

making fuses present series of cracks parallel to the ulnar edge Burns from the explosions leave sometimes a peculiar yellowish discoloration from nitric acid In one case a woman had irregular ulcerations on the back of all the fingers of the right hand with which she dipped up shells from a mixture of soapy water with acid There were large numbers of cases of acne folliculitis and furunculosis, resembling in every respect the common petroleum acne and crude oil acne In these cases the workers had to clean and lubricate machines shells etc One man whose task was the filling of gas bombs supposedly with xylol and hydrobromic acid *(Bromwasserstoff)* had acne pustules and furuncles on brow and cheeks and neck until he had to give up the work As the workers learned to protect themselves, this occupational injury became less frequent and milder Prophylaxis should be the same as in mercurial medication, greasing the exposed skin wearing gloves exercising in the open air after work and thorough ventilation of the workrooms

83 **Coccus Enteritis**—Wiesner relates that in the efforts to keep cholera typhus etc from getting a foothold in Vienna bacteriologic examinations have been conducted by the hundreds, and this systematic wholesale work has revealed a number of new facts Among them he mentions that the *Streptococcus lacticus* was found in over 50 per cent of 650 stools examined it was in pure culture in 72 of the 397 positive cases His research on endotoxins agglutination, etc., compared with the clinical course confirms the assumption that the *Streptococcus lacticus* has pathogenic properties when conditions in the intestines favor its proliferation to an unusual extent It may alone induce enteritis but it generally exerts its pathogenic action only after typhoid, dysentery or stasis hyperemia so that it may be regarded as almost a specific secondary infection The endotoxin in small amounts is not harmful for man but when produced in large amounts, it irritates the bowel These coccus stools showed local and time features suggesting epidemiologic influences

85 **Antitoxin in Blood of Tetanus Convalescents**—Lowy found no evidence of an antitoxin in the serum from 4 patients with tetanus (drawn before antitetanus serum had been injected) nor in 5 normal serums but the tests were positive in the serum from 10 among 15 convalescents Excluding the 5 whose serum reacted positively to horse precipitinogen, this leaves 5 with an unmistakable antitoxin content in their serum capable of neutralizing the dose of toxin fatal for the mouse This antitoxin does not last long, by the thirty-seventh day it failed to neutralize the toxin effectually and the mouse died No connection between the antibody production and the course of the tetanus or location of the wound could be detected

Gazzetta degli Ospedali e delle Cliniche, Milan

Nov 18 1915 XXXVI No 81 pp 1265 1280

89 *Improved Technic for Differential Staining of Urine Sediment etc. (Colorazione differenziale a fresco dei sedimenti orinari) E U Fittipaldi

November 21 No 82 pp 1281 1296

90 Symmetrical Spontaneous Gangrene of the Extremities (Malattia di Raynaud) G De G Giunta

November 25 No 83 pp 1297 1312

91 *Industrial Accidents and Workman s Compensation (Sugli infortuni del lavoro) M Zannini

89 **Differential Stain for Urine Sediment.**—Fittipaldi has been studying to find differential stains that would act simultaneously With the technics in vogue the various stains act at irregular intervals which is apt to blur the conclusions from the findings At first he used indulin with eosin and obtained fairly satisfactory results But the outcome is proving still better he reports, with a triacid staining solution containing three stains anilin blue w, aurantia and eosin The anilin blue w solution is made with 1 part of the stain, 90 parts distilled water and 10 parts alcohol, the aurantia solution with 0.2 parts aurantia 90 parts distilled water and 10 parts alcohol, the eosin is used in a 1 per cent. distilled aqueous solution The triple stain is prepared by mixing 20 parts of the eosin solution, 35 of the aurantia and 45 of the anilin blue solutions The stain keeps well for months, only the eosin grows a little less active This staining technic can be applied without heating to urine sediment, puncture fluids, sputum, tissue juices, blood, etc A small amount of the stain is placed with a glass rod on the specimen to be examined With the same rod a small drop of physiologic salt solution containing 2 per cent acetic acid is stirred into the specimen on the slide This decolors the vehicle while fixing the stain on the morphologic elements The specimen is then slightly heated

91 **Industrial Accidents**—Zannini describes the features which distinguish an industrial accident from an occupational affection but adds that the distinction in reality is artificial and only for business purposes The industrial accident may be defined as any injury in the course of the day's work that could not have been foreseen at the time the workman assumed the work He discusses further concomitant factors saying that the workman on assuming the work is supposed to be free from defects and disability, but that this theoretical requirement is practically impossible of realization Accidental dislocation of the patella, for example requires a week's repose even if the dislocation has occurred at some time before just as much as if this were the first time

Brazil-Medico, Rio de Janeiro

Oct 30 1915 XXIX No 41 pp 321 328

92 *Improved Technic for Staining Tubercle Bacilli (Sobre um novo methodo de coloração do bacillo de Koch) D Cerqueira

November 6 No 42 pp 329 334

93 *Leukemia a Mycosis (Pesquizas etiologicas na leucemia. II) E Dias

94 Tropical Bubo (Bubão climatico) F Luz Commenced in No 41

92 **Improved Technic for Staining Tubercle Bacilli**—Cerqueira stains the specimen as usual with fuchsin, according to the usual technic, heating one minute, then decolors with nitric acid, ⅕ and rinses in running water Without drying it is then treated with tincture of iodin for one minute and then rinsed The specimen is then immersed in pure ammonia for a few seconds The specimen is then rinsed in a 2 per thousand solution of sodium hyposulphite and dried slowly over an alcohol flame or Bunsen The tubercle bacilli show up pale pink and the granulations are distinctly evident, stained a bluish violet This technic also eliminates other germs which are susceptible to the destructive action of acid, alcohol or alkali Another advantage of this technic is the pale tint of the background which throws the bacilli into better relief

93 **Leukemia a Mycosis**—Dias reports here another case of leukemia the peripheral blood showing 648,000 leukocytes with positive findings in the blood and certain glands, confirming his conclusions from his two other cases that leukemia, of the myelogenous type, is the work of a fungus, a mycosis He calls it the *Adenomyces leukemiae* Laboratory animals injected with blood and lymph from his three patients all died, the pathologic findings being the same in all, and the more pronounced the longer the interval after the experimental inoculation

Russkiy Vrach, Petrograd

Sept 26 1915 XIV No 39 pp 913 936

95 *Serodiagnosis of Rabies (Reaktzie Abderhaldeña pri bieshenstvie) V I Nedrigailoff and M A Scheremezinskaia

96 Syringomyelia with Acromegalic Changes but without Actual Acromegaly A. K. Schenk

97 Dermoid of the Frontal Bone M O Friedland

98 *Symptoms and Treatment of Tetanus (Stolbnyak.) Z R. Feinman

99 Action of Pointed Small Caliber Bullets as Observed during the Balkan War N I Kochetoff

95 **Protective Ferments in Diagnosis of Rabies**—The blood was taken from diseased animals three or four hours before the institution of the experiments, from rabbits just before death, from dogs when the symptoms were at their height The antigens were prepared from brain tissue of patients with rabies and of infected rabbits dogs, a cow, calf and cat The brain fat was removed with petroleum ether

in Soxhlet's apparatus The results of the numerous experiments were as follows (1) in rabid dogs protective ferments were found in the blood against antigens obtained from (*a*) brains of diseased and (*b*) healthy animals, and from the salivary glands of (*c*) rabid and (*d*) healthy dogs 2 In diseased rabbits and men the same ferments were found except the ferment *d* 3 In dogs infected with hydrophobia subdurally, in the eye, or in the sciatic nerve, ferments were detected as early as twenty-four or forty-eight hours, after the infection, against *a, b, c,* while ferment *d* was found only just before the development of the morbid symptoms 4 In rabbits infected subdurally, ferments were found in their blood within twenty-four hours except the *d* variety 5 The latter did not seem to develop in the patients given prophylactic treatment against hydrophobia but ferments were found that digested brain tissue from rabid and healthy animals within twenty-four hours, those against salivary glands of mad dogs were found only for ten or twelve days after treatment 6 Abderhalden's reaction may thus be of service not only for scientific research on rabies but also for diagnosis

98 **Tetanus in the Russian Army**—Of 66,110 wounded soldiers treated in the hospitals of Dvinsk during the first eleven months of the war, 95 (0 134 per cent) suffered from tetanus Feinman thinks this to be a rather low figure, as tetanus in other regions was more common among the wounded It depends largely on the locality (of battles) Some battle grounds furnished no tetanus whatever, on others it was unusually frequent Of the 95 tetanus patients, 74 that is, 78 per cent died and 21 recovered Parts covered gave tetanus 7½ times oftener than uncovered portions of the body, and shrapnel wounds twice as often as others The incubation period was from five to thirty-eight days Those that occurred during the first eight days gave 100 per cent mortality A bad omen was profuse sweating, in 22 per cent the initial symptom was not trismus, but local spasms in the wounded arm, leg abdominal muscles, etc, which frequently showed from one to seven days prior to the general convulsions Of the 21 patients with local convulsions as an early sign 17 died The best symptomatic results were obtained with chloral hydrate, from 1 to 7 gm daily given by the mouth or rectum For spasmodic contracture of intestines and bladder hypodermic injection of from 0 5 to 1 gm of a pituitary extract gave good results Warm baths at 100 F also proved effectual in symptomatic treatment No benefit could be detected from treatment with antitetanus serum, intravenous or intraspinal, from 3 per cent phenol solution, suspension of pigs' brains, calcium lactate three times daily in doses of 30 drops of a 10 per cent solution, or from magnesium sulphate in hypodermic injections of from 2 to 14 c c of a 25 per cent solution, or by intraspinal injection of 15 c c of a 10 per cent solution

Nederlandsch Tijdschrift voor Geneeskunde, Amsterdam

Oct 30, 1915 II No 18 pp 1991 2086

100 *Experimental Research on Localization of Sensory Functioning in the Brain (Proefondervindelijke onderzoekingen over de localisatie der sensibiliteit in de schors der groote hersenen) J G D de Barenne
101 Disappointing Experiences with Rosenbach's Tuberculin in Diagnosis and Treatment of Children J C Schippers

November 6, No 19, pp 2087 2178

102 The Straub Hermann Biologic Reaction Not Specific for Morphin as Claimed J R F Rassers
103 Advantages and Disadvantages of Roentgen Treatment of Uterine Fibromyomas (De vrouw en het essentieel vrouwelijke bij de roentgenbehandeling van baarmoederfibromyomen) N Voorhoeve

November 13, No 20 pp 2179 2270

104 The Conception of Space (Zintuigen en ruimtevoorstelling) T E Ter Kuile
105 *Differential Diagnosis of Typhoid E P Snijders Commenced in No 19
106 Value of the Wassermann Reaction in Neurology and Psychiatry T Passtoors
107 *Hypernephroma and Precocious Sexual Characters (Hypernephroom hypergenitalisme) A A H van den Bergh

100 **Localization of Cerebral Function by Local Application of Strychnin to the Cortex**—The report of De Barenne's research is to appear in full in the *Quarterly Journal of Experimental Physiology* He here describes the remarkable crossed effect of application of a minute amount of strychnin to some spot on the cortex He made thirty-four experiments, all on cats The symptoms induced were exclusively sensory For instance, application of the weak solution of strychnin to the left posterior sigmoid convolution apparently caused no disturbance for ten minutes, then the cat shook its right front paw and acted as if this paw hurt, and tests of this paw indicated unmistakable hyperesthesia and hyperalgesia, but there were no motor disturbances and no exaggeration of the reflexes The left front paw also shared to a lesser extent in the sensory disturbances This method of local strychninization of small areas in the cortex he thinks is liable to prove very useful in the study of cerebral sensory functioning

105 **Differential Diagnosis of Typhoid**—Snijders concludes his long study of the various newer differentiating measures in typhoid with the statements that agglutination is the most constant and bacteriemia the most reliable sign of typhoid known to date, but even these must be considered in relation to the clinical syndrome The diagnosis of typhoid should never be based on the bacteriologic findings alone Cultivation of the typhoid bacilli from the blood is extremely important for an early diagnosis He declares that no typhoid patient should be let loose on society again without finding out whether he is a carrier or not Examination of the urine for typhoid bacilli is of great epidemiologic importance, and every practitioner with very little trouble can obtain the information as to the positive or negative findings in the individual case Snijders thinks there can be little doubt that, when typhoid bacilli are found persistently in the urine there must be some typhoid focus in the urogenital organs, and he appeals to urologists to pay special attention to this possibility The bacilli are found most numerous in the excreta during the third week, as a rule, and the danger of infecting others would seem to be greatest at this time Conradi and others have demonstrated, however, that the most contagious period is during the first and second week. The reason for this is one of the many still obscure points in our knowledge of this, the most intensively studied of all diseases A number of dubious and clinically latent cases are described

107 **Precocious Genital Development with Hypernephroma**—Van den Bergh remarks that the time may not be far distant when surgeons will find it possible to remove successfully a tumor in the pineal gland and large hypernephromas and hence clinicians must be studying the syndromes induced by such in order to diagnose them early enough for successful removal He gives an illustrated description of a case of hypernephroma in a 3 year old girl with a large, hard, retroperitoneal tumor palpable in the left abdomen, which entailed fever and progressive weakness The child was 4 or 5 inches taller than the average, and the general aspect suggested that of an adult, especially the external genital organs The skin was normal as also the fundus and skull findings, and there was nothing to suggest precocious functioning of the sexual organs On these findings a left hypernephroma was assumed and its removal attempted, although the dangers were realized The tumor weighed 2,000 gm and measured 22x16x12 and there seemed to be metastasis in the stump of one or more veins The child bore the operation well at first but died the following night He reviews the cases on record in which a malignant hypernephroma was accompanied by precocious development of the external genital organs, tabulating the details of eighteen, including his own case The ages ranged from 14 months to 14 years, and in all but three of fifteen cases the tumor was on the left side Two girls of nearly 5 and 9 are said to have had beards, and extreme obesity is mentioned in a number of the cases He comments on the fact that of the eighteen cases, over one half were reported by English writers The microscope shows the great difference between hypernephroma and sarcoma of the suprarenals Neither the latter nor the Grawitz type of tumors in the kidney are ever accompanied by the changes in the secondary sexual characters observed with hypernephromas in children

The Journal of the
American Medical Association

Published Under the Auspices of the Board of Trustees

Vol LXVI, No 4 Chicago, Illinois January 22, 1916

CARDIOSPASM

I W HELD, M D
AND
M H GROSS, M D
NEW YORK

The esophagus, possessing the simple function of being the passageway for food from mouth to stomach, has an uncomplicated structure, being poor in lymphatics and having no digestive glands It is, therefore, seldom subject to infectious and inflammatory diseases, even by extension from the neighboring organs, such as mouth, pharynx and stomach

The passing of food from mouth to stomach, accomplished as it is by the act of deglutition, as shown below is chiefly under the control of the nervous system, hence disturbance of the nervous system may give rise to difficulty in deglutition

One of the diseases of the esophagus which causes obstruction in the passage of food from esophagus to stomach, resulting mostly from a disturbance in the nervous system, is cardiospasm

By cardiospasm we understand a spastic contraction of the cardia of shorter or longer duration, sometimes lasting for weeks and even months, and leading to hypertrophy and dilatation above the contraction Spasms of an equal etiologic nature may also occur in one of the three main physiologic narrowings of the esophagus, that is, at the cricoid cartilage (esophagus mouth, Killiani) at the bifurcation of the trachea, and at the entrance of the opening of the diaphragm (hiatus) Such a condition is termed esophagaspasm

Cardiospasm from an etiologic standpoint is in the vast majority of cases of a purely functional nature In order, therefore, fully to comprehend how cardiospasm is brought about, understand its pathology and symptomatology, and employ intelligent therapeutic measures, it is absolutely essential to review the physiology of the esophagus in relation to the act of deglutition and the influence of the nervous system on this important function

ACT OF DEGLUTITION

The esophagus, as the word implies, serves mainly as a carrier of the food from mouth to stomach This is brought about by the act of deglutition The proper understanding of deglutition was made clear by the untiring experimental studies of Kronecker,[1] Meltzer,[2] Cannon,[3] Falk, Schreiber[4] and others

The normal deglutition in men was studied by F Krauss[5] and his pupils by means of the Roentgen ray Originally the propulsion of food from mouth to stomach was explained as being divided into three parts — the furtherance of the bolus from mouth to pharynx being accomplished by the mylohyoid muscles and tongue, from pharynx to esophagus by the middle and lower constrictors, and through the esophagus proper by its own peristalsis

In 1880 Falk and Kronecker advanced the theory that the most important part is the propulsion of the food from mouth to stomach by the rapid contraction of the muscles of the mouth, while the esophageal peristalsis is of secondary importance Later Kronecker and Meltzer experimentally demonstrated this fact by showing that the manometric pressure of 20 cm of water which exists in the buccal cavity at the beginning of swallowing is also present in the esophagus Other experiments by the same authors verified their assertions, and they therefore concluded that liquids and semisolids are not conveyed down the esophagus by peristalsis but are "squirted" into the stomach by the contractions of the muscles of the mouth They maintain that the constrictors of the pharynx and the musculature of the cervical part of the esophagus can be wholly removed without disturbing deglutition

It is thus seen that only the function of the mylohyoid suffices to propel the food from mouth to stomach At the present time there is still a controversy between the school of Kronecker and Meltzer and that of Schreiber The latter asserts that all the muscles concerned in the act of deglutition grasp the bite like wheels and teeth, some of the muscles hermetically closing the area of swallowing so as not to allow the food to come back into the mouth The esophagus proper also participates in propelling the food further down

Meltzer determined the resistance at the cardia by listening with a stethoscope over the ensiform cartilage when fluid was swallowed Six or seven seconds after, normally a sound was heard, if that sound was heard sooner he concluded that an insufficiency of the cardia existed

While the ingenious studies of Kronecker and Meltzer have laid the entire foundation of the physiology of deglutition, further evidence confirming their assertions and adding more information was supplied by Cannon and his co-workers by studying the act of swallowing by means of the Roentgen ray on animals, and by F Krauss and his pupils in their Roentgen studies on men Cannon proved that there is a difference in the propulsion time through the esophagus, depending on whether fluids, semisolids or solids are administered.

---

[1] Kronecker and Falk Arch f Physiol 1880 p 296

[2] Meltzer Centralbl f Physiol xix No 26 xxi No 3 Meltzer and Auer Proc. Soc. f Exper Biol. and Med Dec. 10 1906 Kronecker and Meltzer Arch f Physiol 1883, p 337 Berl klin Wchnschr 1884 No 34

[3] Cannon Am Jour Physiol xix No 3 Med News 1905 No 20

[4] Schreiber Arch f exper Path u Pharmakol 1911 lxvii 72

[5] Krauss and Ridder Erkrankungen der Mundhoch und Speiserohre Vienna 1913 Krauss F Deutsch med Wchnschr 1912 No 6 Ztschr f exper Path 1912 No 10

The length of time in propelling different kinds of food varies in different animals, and in different parts of the esophagus in the same animal. This depends on the histologic structure of the esophagus. In geese, for example, in which the entire esophagus consists of nonstriated muscle, the propulsion is slower and accompanied by peristalsis. In animals in which striated and nonstriated musculature exists, the part of the esophagus possessed of the striated musculature (upper part of the esophagus) propels the food rapidly without peristalsis, while in that part possessed of striated muscles (lower part), propulsion is slower and peristalsis is seen. This is also the case in human beings.

The kinematographic studies of Krauss by means of the Roentgen ray have aided a great deal in the understanding of the physiologic act of deglutition. From such studies, Krauss divides the act of deglutition into two periods: (*a*) the buccopharyngeal period, and (*b*) the esophageal period. The first period corresponds to the squirting action (Meltzer) and lasts only about one second, during which the food gets into the esophagus. If the morsel is large enough it fills the entire esophagus, almost reaching the mouth of the esophagus (Killian), with some air seen on top of the food. This period lasts from five to seven seconds. The closure of the cardia is at first maintained, allowing only a thin threadlike stream to pass into the stomach. Contraction waves are seen to run through the esophagus, by which within five or seven seconds the esophagus is seen entirely empty, or with but a few spots in the physiologic narrowings.

Our own Roentgen-ray observations fluoroscopically convince us (corresponding to the studies of Cannon) that fluids and semisolids traverse the esophagus more quickly than do solids. We must state, however, that an exact visualizing of contraction waves fluoroscopically under physiologic conditions is by no means positive. When we recall that the esophagus is seen only as a shadow from the contrast substance, it is clear that unequal distribution of the contrast substance in the course of its moving downward may simulate contractions. If contractions in the lower part of the esophagus were responsible for the propulsion of food into the stomach, solid food or the overfilling of that part of the esophagus by quick drinking would show even stronger contraction. This does not correspond to our findings. Normally, when the lower part of the esophagus is overfilled, we see that it presents itself in a sausage form without visible contractions, and that empty swallowing causes the food to drop down in a mass. We believe, therefore, that the teaching of Meltzer—that the act of deglutition is chiefly a squirting action, and that the contractions in the first act of swallowing cause inhibition and thereby opening of the cardia—is correct.

The fact that the food stays at the cardia for a few seconds does not prove that contraction of the lower part of the esophagus is necessary to propel it, but it rather shows that, depending on the consistency of the food, one or more contractions in the buccopharyngeal part of deglutition are necessary to cause inhibition of the cardia. This explains satisfactorily that the esophagus can be entirely stripped of its musculature if only the mylohyoid muscle is left and the nerves controlling deglutition are intact. Swallowing is undisturbed unless the animal is deeply anesthetized, when a reflex act cannot be accomplished. The act of deglutition is thus a reflex one, and the propulsion of food through the esophagus, as shown by Meltzer, is determined by the intracentral nervous connections, the center of which is in the medulla oblongata.

This brings us to a discussion of the nervous control of deglutition.

Deglutition being a reflex act, it naturally involves afferent and efferent paths. The afferent impulses arise at different points along the mouth, pharynx and esophagus. Experimental studies on animals, especially carried out by Kahn, demonstrated that there are so-called chief spots and accessory spots from which afferent impulses arise if a local stimulus is exercised. The chief spots are shown to be on the natural path *from mouth to pharynx*, the accessory spots lie in out-of-the-way places into which particles of food may be driven. The nerve supplying the chief spots is the glossopharyngeus.

The glossopharyngeus, the second branch of the trigeminus, and the superior laryngeal nerve control the accessory spots. Wasselieff demonstrated on himself the reflex character of deglutition and its dependence on impulses from special spots in the mouth and pharynx by swallowing a sponge moistened with cocain attached to a thread which he immediately withdrew, thereby deadening the sensation of the chief spots. For some minutes he was unable to swallow even his own saliva.

The afferent impulses are carried to the center, situated in the floor of the fourth ventricle. From here the motor impulses pass out, distributed by a number of nerves, and the bolus gets its initial start to continue on its course.

By the hypoglossus nerve impulses pass to the tongue, by the third branch of the trigeminus to the mylohyoid, by the glossopharyngeal branch of the vagi to the muscles of the pharynx and by several vagus branches to the entire length of the esophagus.

Special attention must be paid to the innervation of the lower esophagus and cardia. The chief supply for the motor function of the lower esophagus and cardia is also derived from the vagus. The influence of sympathetic nerve fibers on the lower esophagus is today also conceded. The existence, however, of intrinsic nerves of the lower esophagus and cardia, able to carry out the function independent of whether or not the chief nerve supply (vagus) is intact, was demonstrated by Cannon. These nerves are important when they are called on to take up the expulsion of the food from the lower part of the esophagus into the stomach when there is obstruction at the cardia on account of an organic disease of the vagus. We thus see the important rôle played by the vagus or its allied nerves in controlling the act of deglutition.

The deglutition disturbances due to organic affection of the vagus and its allied nerves, either centrally or peripherally, are well known. But functional diseases of the vagus may also bring about disturbances in the act of deglutition, either by a functional disturbance of the vagus directly supplying the esophagus, or by way of reflex. Reflex disturbances need not originate in the vagus; they may also originate in the sympathetic system, because of the intimate relation of the vagus and sympathetic supply of different organs.

In order to understand how a reflex disturbance in the vagus-sympathetic system supplying other organs can bring about cardiospasm, it is deemed wise to review briefly the physiologic anatomy of that system as described by Langley,[6] the pharmacologic tests as outlined by Meyer and Gottlieb,[7] and its clinical significance as first pointed out by Eppinger and Hess[8]

The vagus system (autonomic nervous system or parasympathetics, Langley) has three centers Fibers originate in the midbrain which run through the oculomotor nerve to the ciliary ganglion, from the medulla oblongata there originate fibers which in the chorda tympani supply secretory and vasodilator fibers to salivary glands and mouth and from facial and glossopharyngeal nerves secretory and vasodilator fibers reach the trigeminus and supply the mucous membrane of the mouth, nose and pharynx From the medulla oblongata there originate the fibers which run through the vagus proper supplying the thoracic and abdominal viscera They are inhibitory fibers for the heart constrictor fibers for the bronchi and motor fibers for the esophagus stomach and intestines, and secretory fibers for the stomach and pancreas

The vagus supply just described is also called the craniobulbar vagus system Finally there is the so called sacral part of the vagus, consisting of the first sacral nerves originating from the lower spinal column and supplying the colon descendens, rectum, anus bladder and genital organs This part of the vagus is also known as the nervus pelvicus

To recapitulate, we may say that the autonomic nervous system has three divisions that of chorda tympani and glossopharyngeal for the oral cavity, vagi for the alimentary tract from pharynx to colon and the pelvic nerves for lower abdominal and pelvic viscera

The sympathetic system is composed of a chain of ganglia lying on each side of the vertebral column each spinal nerve root having one ganglion In the cervical region these ganglia are condensed into two—the superior and inferior cervical ganglia united by the cervical sympathetic trunk The upper three or four thoracic ganglia on each side join to form the stellate ganglion, for the coccygeal vertebra there is the coccygeal ganglion In the abdomen a second system of ganglia exists, that is the semilunar or solar ganglia and the superior and inferior mesenteric ganglia In the organs a third system of ganglia exists The three systems of ganglia are known as the lateral, collateral and terminal ganglia respectively

The ganglia of the sympathetic chain are connected with all the spinal nerves after they have given off their posterior divisions by means of rami communicantes The latter consist of medullated and nonmedullated fibers The medullated or white rami are formed by fibers originating in the spinal cord and perhaps in the posterior root ganglia, the gray or nonmedullated rami arise in the sympathetic ganglia, and run back to join the spinal nerves

The fibers derived from the cervical ganglia supply the parotid, submaxillary and sublingual glands Fibers from the stellate ganglia supply the muscles of the heart Fibers from the epigastric ganglion (solar plexus) supply the lower esophagus cardiac sphincter liver, pancreas and their duct, and the small intestine These fibers also supply the vasomotor apparatus of the stomach and intestine Fibers from the superior and inferior mesenteric ganglia supply the colon and rectum

The sympathetic nervous system has four stations the first is situated in the brain and spinal cord, the second in the lateral ganglia, the third in the collateral ganglia, and the fourth in the viscera

The autonomic and the sympathetic systems in a general way are antagonistic to each other Stimulation of the autonomic system causes contractions of the organs, and by its vasomotor fibers dilates the blood vessels of the organs Stimulation of the sympathetic system inhibits contraction of the viscus and contracts the blood vessels

The pharmacologic tests which serve to demonstrate the respective effects of the two systems were first studied on animals by Langley, and later by Meyer and Gottlieb, Meltzer and others Langley showed that nicotin paralyzes the ganglia, whether it is introduced by the blood or applied locally Meyer and Gottlieb succeeded in isolating pharmacologically the function of the sympathetic and vagus systems They demonstrated that the sympathetic is stimulated by epinephrin or the hormone known as chromaffin contained chiefly in the suprarenal cortex and the sympathetic nervous system itself Drugs that paralyze the sympathetic system have as yet not been demonstrated Drugs which stimulate the vagus system belong to the cholin group, for example pilocarpin, physostigmin and muscarin Atropin paralyzes the vagus

The application of the study of the vegetative nervous system in relation to the clinic was first carried out by Eppinger and Hess They found that normal individuals are not influenced by the physiologic dose of drugs which stimulate or paralyze the autonomic or sympathetic systems In such persons the antagonism of the vagus and sympathetic systems is complete, and the persons are of a normal tonus

Eppinger and Hess showed that, depending on the response to the drugs influencing the vagus and sympathetic systems, one can differentiate a vagotoniac from a sympatheticotoniac By a vagotoniac they understand an individual who is very susceptible to drugs stimulating or paralyzing the vagus (physostigmin pilocarpin or atropin) Sympatheticotoniacs are those who are susceptible to the administration of drugs stimulating the sympathetic (epinephrin)

Pilocarpin is used to determine the status of the vagotoniac epinephrin that of the sympatheticotoniac Pilocarpin in the dose of 0 01 gm subcutaneously causes in the vagotoniac the following symptoms excessive salivation, perspiration, slowing of the pulse, gastric disturbances as a result of increased gastric secretion, dyspnea, or even bronchial asthma narrowing of the pupils, diarrhea and vesical and rectal tenesmus

Epinephrin (1 1,000) from 10 to 15 drops intramuscularly, produces in the sympatheticotoniac, tachycardia, increase of blood pressure, exophthalmos, polyuria and glucosuria

The same authors have also taught us to differentiate the vagotoniac and sympatheticotoniacs clinically

The vagotoniac shows some or all of these symptoms narrow pupils narrow palpebral fissures, salivation, perspiration, acrocyanosis of hands, rarely of feet or face, clammy hands, dermographia bradycardia, extrasystole, respiratory arrhythmia, Aschner[9] symptom (slowing of pulse on pressure on the eyeballs), Erb s symptom (slowing of pulse when patient is made to bend forward), and Goldscheider symptom (slowing of the pulse with bending of knees and holding of the breath) Eosinophilia is quite common

The sympatheticotoniac shows protrusive bulbi, dilated pupils, dryness in the mouth, high blood pressure, dry skin and no eosinophilia

We have dwelt exhaustively on the vagus-sympathetic disturbance and its clinical recognition because the existence of one or the other type often leads to the interpretation of the patient's complaint, makes us determine the underlying etiologic factor, and serves as a guide in therapeutics

It must, however, be strongly emphasized that a distinct type of vagotoniac or sympatheticotoniac is rather the exception than the rule Most individuals are of a mixed type, one or the other predominating The predominance of the type depends often on the age of the patient and the sex Young people are often vagotoniacs who at a later age may become sympatheticotoniacs The female sex is particularly prone to present at an early age a syndrome characterized by vagus disturbance, and at the time of menopause a sympathetic disturbance

It must also be borne in mind that in order to signify one or the other type it is not necessary for all stigmata to be present, and finally—this is of especial importance—that such individuals are not to be stamped as diseased persons, they possess a distinct status and have a predisposition to certain diseases

---

[6] Langley Jour Phys 1898 xxiii 240 Jour Phys 1911 1912 xliii 173

[7] Meyer and Gottlieb Experimentelle Pharmacologie Vienna and Berlin 1912

[8] Eppinger and Hess Zur Path u Veget Nerven Systems Ztsch f klin Med p 205 ibid lxviii 345

[9] Aschner Wien klin. Wchnschr 1908 No 44

ETIOLOGY

Having discussed more or less fully the anatomy and physiology of the vegetative nervous system, as well as its pharmacologic test and clinical entity, the etiologic factor is easily comprehended

Generally it can be stated that cardiospasm is primarily the outcome of a hyperirritability of the vagus The underlying factors bringing about such a state may be divided into five groups

In the first group are the patients whose vegetative nervous system is below par through inheritance Almost throughout their lives they have some physical disturbance brought about by an unstable vagus or sympathetic, and are also subject to cardiospasm Although physically perfectly healthy, such people are found to have objective signs of vagotonia or sympatheticotonia, or the two mixed, and in the history we will hear that from childhood almost all organs supplied by the vegetative nervous system have at one time or another been subject to a functional disorder (enuresis nocturna, periodic vomiting, laryngospasm, urticaria, etc)

To the second group belong the cases in which the vegetative nervous system becomes involved because of an inborn status asthenicus or status thymicolymphaticus It is true that the status just named not rarely presents an inborn instability of the vegetative nervous system, but in a considerable number of cases we have found that the disturbance in the various organs brought on by hyperirritability of the vagus and sympathetic is secondary These individuals are not born to the task of great responsibilities, either physical or mental, and when overtaxed they need not necessarily acquire organic diseases, but they become subject to functional derangement in the vegetative nervous system This may manifest itself in any of the organs supplied, and with equal frequency in the esophagus, causing cardiospasm In this group belong the cases of gastroptosis, especially "long stomach" (langmagen) in which traction on the esophagus is the causative factor (Rovsing[10]) Here, also, belong cases of cardiospasm resulting from sudden psychical trauma in individuals previously apparently healthy

The third group contains the cases which show cardiospasm due to reflex irritation from other diseased organs (ulcus ventriculi, carcinoma of the fundus and lesser curvature, gallstones, kidney stones, diseases of the generative and genito-urinary organs, pancreatitis chronica, or left-sided diaphragmatic pleurisy) Here, too, the underlying disturbed vegetative nervous system is a predisposing agent

In the fourth group belong the cases of cardiospasm due to infections by toxic and metabolic agents (nicotin, lead, uremia, parasites, gout, chorea, lyssa)

In the final group belong the cases in which a local esophageal disease is the causative factor (fissure, erosions, scar tissue formation, ulcus pepticum esophagi)

This disease is more commonly found in younger individuals With the exception of globus hystericus (spasm of the esophagus mouth, Killiani) the spasm, especially of the cardia, is almost as frequent in men as in women

PATHOLOGIC ANATOMY

Most observers (Stark,[11] Krauss, Baillie and Howship,[12] Rosenheim[13]) found postmortem no changes in the esophagus or cardia at all Rumpell and Leichtenstern observed a persistent spasm of the cardia shortly after death, necessitating some force to overcome resistance When the disease had persisted for a long time hypertrophy and dilatation above the obstruction were found

Symptoms—These vary a great deal in the degree of severity It is characteristic that in most cases the onset of deglutition disturbance is sudden Like the spasm of the mouth of the esophagus (globus hystericus), the cardiospasm may be of sudden onset and of a very transient nature In other cases the onset is equally sudden but of longer duration, the attack may last for hours, days, weeks and even months In cases of longer duration we often hear that the degree of deglutition disturbance is not always the same Usually the patient tells us he finds that solids go down easily, while fluids do not pass at all At other times part of the food remains above the cardia, and when the patient continues to eat, the food suddenly begins to go down When the disease persists, food stagnates in the esophagus, giving rise to epigastric distress, substernal pressure and even pains in the chest, and also belching of air and regurgitation of unchanged food When localized or generalized dilatation of the esophagus takes place, the patient may subjectively feel relieved because he can partake of a meal of moderate quantity without experiencing deglutition disturbances This is due to the fact that there is enough room in the dilated esophagus for the food to accumulate, but soon after his meals, or if he partakes of a little more than the esophagus can hold, he begins to regurgitate his food (especially when in a reclining posture) into the mouth absolutely unchanged and without nausea In more progressive cases the contents of the esophagus show evidence of fermentation and decomposition, manifesting itself by the presence of lactic acid, butyric acid, sugar and a foul odor Loss of weight and even extreme emaciation are present in severe cases

Pain as a symptom may or may not be present, depending on the coaffection of the sensory nerve apparatus If present, the pain is entirely out of proportion to the degree of the disease and nature of the food taken A little cold water will often cause severe pain in the region of the ensiform process radiating to the soft palate, uvula, epiglottis, etc), or both sides of the lower thorax, especially the left When the spasm accompanies a fissure, erosion or ulcer of the esophagus, pain on deglutition is a very prominent symptom

While the symptoms described above are present in most of the cases, we must remember that even such minor complaints as epigastric pressure and fulness right after meals, continuous belching and moderate deglutition disturbance often indicate the existence of a minor degree of cardiospasm, and should lead us to make a thorough investigation in order to establish a diagnosis

The subjective complaints just described would lead us only to suspect the existence of functional spasm In order to establish the etiologic factor and the seat and nature of the lesion, the objective examination is the most important part To this belongs, *first*, an exact examination of the vegetative nervous status, second, auscultation, third, examination by stomach tube and sound fourth, esophagoscopy, and fifth, roentgenoscopy

---

[10] Rovsing Ref Munchen ed Wchnschr, 1913 p 1111

[11] Stark Lehrbuch der Krankheiten der Esophagus p 136

[12] Howship Practical Remarks on Indigestion London *1825*

[13] Rosenheim Krankheiten der Speiserohre und des Magens Vienna, *1896*

The understanding of the exact status in relation to vagotonia or sympatheticotonia or the mixed type will often more than any other method lead to the proper diagnosis of functional cardiospasm More or less of the clinical manifestations indicating instability of the vegetative nervous system will give us a clue to the underlying cause It is self-evident that people with stigmata of a disturbance of the vegetative nervous system may be suffering from organic disease of the esophagus, and therefore an examination by all possible methods to establish a positive diagnosis should be made We agree with von Bergmann that people with vagotonia are very much predisposed to spasmodic ulcer of the stomach, which often brings about a reflex spasm of the cardia The reflex cardiospasm in cases of cholelithiasis is undoubtedly of a vagotonic nature, just as is the pylorospasm in such cases

Auscultation reveals that the second sound on swallowing elicited at a point where the left costal margin joins the xiphoid process, or posteriorly at a level of the tenth dorsal vertebra to the left of the median line is very much prolonged, delayed, or replaced by a continuous confused bubbling with a grating note, or is entirely absent We hear, on empty swallowing of the patient, gurgling sounds coming down to the stomach in case the cardia opens

Sounding—The soft stomach tube of not less than 10 mm in width is first introduced At the seat of spasm we encounter resistance, sometimes giving us the sensation that the tube is tightly caught so that even its withdrawal is made difficult In many cases the spasm relaxes suddenly, and we feel the tube sliding down This is even more the case if a solid sound with an olive not less than 10 mm , a rather larger one, is employed It quite frequently happens and is even one of the characteristics of the disease that the first sounding is unsuccessful, but a second time we succeed without difficulty In some cases the sound passes the obstruction if the patient is told to swallow empty a few times while the sound is in the esophagus In other cases the passage of the sound is facilitated by the preliminary use of oil by mouth, and if this is not successful, a milligram of atropin or 0 015 gm of papaverin in several doses, administered one or two days before the use of the sound, will facilitate the passage of the sound and clear up the diagnosis

Esophagoscopy—Even such men as H Stark, Rosenheim, Krauss, Janeway and Yankauer, who use the esophagoscope with such skill, do not give us any definite characteristics of the esophagoscopic picture in cardiospasm Rosenheim and Stark observed in some cases hyperemia, in others ischemia above the spasm, and also folds enclosing a narrow half-moon slit or even a pin-point opening It is most essential that this method should be employed only by those most versed in its use and interpretation of findings

Roentgenoscopy—In addition to the other methods described, but at the expense of less inconvenience to the patient, and in a great number of cases the gaining of more complete information than by any other method, there is the Roentgen examination In order to visualize the esophagus, the contrasting substance used must be such as to coat the entire esophagus and give the entire outline of the viscus and its mode of action, and still be of such a consistency as to pass through even considerably obstructed areas For this purpose the bismuth suspension advocated by I S Hirsch is very useful It is made as follows One tablespoonful of bismuth subcarbonate is treated with 1 teaspoonful of mucilage of acacia and stirred long enough to form a fine creamlike suspension Other methods, like the use of the bismuth capsule, the Bassler cardioplugger, the Stewart "sausage filler" and the lead sound, have all too many disadvantages and no advantages

Next in importance in the Roentgen examination of the esophagus is the position of the patient The anterior-posterior position only serves to demonstrate the contrast substance passing from pharynx to esophagus, the rest of the esophagus cannot be seen in this direction because the shadow of the large vessels and heart anteriorly, as well as the spine posteriorly, obstruct its view Holzknecht,[14] who has made himself so deserving of consideration in Roentgen diagnosis of the gastro-intestinal tract, first advised the positions by which most of the course of the esophagus can be made visible For this purpose he utilizes two positions the first diagonal (right shoulder to screen and left to tube, patient's arms over head), the patient assuming a fencing position, the second diagonal (left to screen and right to tube) The latter position was suggested for the study of foreign bodies in the esophagus

Besides this, Sturtz[15] advised the anterior-posterior position for the study of the subdiaphragmatic part of the esophagus We have noticed that to visualize the entire length of the esophagus and even to see it more distinctly and somewhat magnified, the best position is the following The patient is placed with the back to the screen and the face to the tube, then his left shoulder is rotated gradually anteriorly until a light zone is seen between the spine in front and heart and blood vessels in the back When the patient now swallows the contrast substance, the entire course of the esophagus, from mouth to entrance into the stomach, is seen It is true that the esophagus viewed in this position shows a somewhat less distinct shadow, but we find that this can be overcome by giving the patient a more concentrated form of the contrast substance

The Roentgen-ray characteristics of cardiospasm and spasm in the other parts of the esophagus can be cleared up if we utilize the physiologic studies of Friedrich Krauss made by means of the Roentgen ray He taught us the importance of the peristaltic action of the healthy esophagus The degree of peristaltic action, its existence or complete absence, accompanying an obstruction to the passage of the food in the esophagus, will indicate to us whether the obstruction is due to spasm (hyperirritability of the vagus), atony of the esophagus (paralysis of the vagus), or infiltration into the wall of the esophagus In an esophagus subject to spasm, peristalsis is maintained, or even increased, while in carcinomatous infiltrations, idiopathic dilatation or obstruction due to tuberculosis, syphilis, etc , the musculature of the esophagus above the obstruction weakens quickly, leading to localized or general dilatation, even diverticula formation and finally to perforation Bearing this in mind, it becomes possible to diagnosticate cardia and esophageal spasm by means of the Roentgen ray with a fair degree of certainty

---

[14] Holzknecht Deutsch med Wchnschr 1900 No 36.
[15] Sturtz Med Klin 1911 xlviii

There will still remain a certain number of cases in which the differential diagnosis between organic and functional obstruction will not be possible.

We differentiate roentgenologically two kinds of spasm: incomplete and complete. The former manifests itself fluoroscopically and roentgenographically as follows: The contrast substance is seen to hold at a point of obstruction, and the esophagus above fills in an irregular spindle-shaped form exceeding its normal width two or threefold. For a few minutes nothing may be seen to pass through the obstruction, then a narrow, ribbon-shaped stream, also in the form of a spindle, dribbles down the esophagus below the obstruction. This characteristic spindle-shaped form below the obstruction indicates that the contrast substance maintains its shape brought about by the peristaltic enclosure of the esophagus above the obstruction. It is also noticed that repeated empty swallowing by the patient facilitates the passage of the food through the obstruction. In the second form, or complete obstruction, which occurs most commonly at the lowest end of the esophagus, a uniform dilatation with visible contractions is seen above the obstruction. The dilatation is in direct proportion to the food taken, because the esophagus by virtue of the peristalsis surrounds the contents actively. Through the obstructed area nothing may be seen to pass—or a very thin streak of contrast meal, or sometimes even a very small dimple. If the condition persists for a very long time, dilatation may be so advanced as to permit the esophagus to fill with from 200 to 300 c.c. of fluid. We can then see the fluid in the esophagus even without contrast substance.

When cardiospasm is overcome by divulsion or, as often happens, spontaneously, the contrast substance is seen to drop suddenly into the stomach. As long as peristalsis is maintained, and this is usually the case for a great length of time, active regular contractions are seen along the organ above the obstruction. This is an important differentiating point from obstructions resulting from infiltrating diseases of the wall of the esophagus and idiopathic dilatation. This explains to us why a persistent cardiospasm with the resulting loss of peristalsis causes such a dilatation that it is impossible to differentiate from carcinoma of the cardia—or idiopathic dilatation.

Roentgenoscopic Differential Diagnosis.—In the Roentgen examination, the greatest importance must be attached to differentiating cardiospasm from malignant obstruction. It is out of the sphere of this paper to go into a detailed description of the roentgenoscopic signs of malignant obstruction of the esophagus, but a few leading points in the differential diagnosis will be discussed.

Owing to the fact that carcinomatous invasion of any portion of the esophagus causes a loss of peristalsis of the infiltrated part as well as the musculature above, the dilatation above the obstruction is an early symptom, and it is out of proportion to the narrowing of the lumen. We thus see that notwithstanding the fact that food is passing through the obstructed area after the short delay in a rather considerable quantity, still a dilatation above is quite marked. The loss of peristalsis also explains the absence of contraction in the vicinity of the cancer, although the musculature may not be involved by the carcinoma. The accumulation of air so often visible in the esophageal part above the obstruction can also be explained because of the loss of peristalsis. There is no contractile power on the part of the esophageal musculature to force the air out in either direction. In the later stages of malignant obstruction this air accumulation is due to the decomposition of the accumulated food.

Another very valuable differentiating diagnostic point for carcinoma is the mode in which the contrast substance is seen below the obstruction. The characteristic feature in spasm is mentioned above. In carcinoma it was F. Krauss who showed that unless the obstruction is complete the cardia is open, if the carcinoma is in the lower third of the esophagus, and one sees, therefore, that notwithstanding the delay, with considerable dilatation the stomach receives a great part of the food flowing through a wide opening. Krauss compares the phenomenon of the cardia in carcinoma of the esophagus to the open pylorus in carcinoma ventriculi and the open sphincter ani in carcinoma in the rectum. This phenomena seems to us to be due to the associated atony of the cardia either because of primary muscular weakness or because of vagus paralysis. The irregularity of the outline of the shadow above the obstruction may be present in a carcinomatous obstruction, and if so is due, according to Elsner and Ury,[16] to periesophagotis.

The so-called idiopathic dilatation of the esophagus (atony of the esophagus, Rosenheim) should be differentiated from cardiospasm by means of the Roentgen ray. In atony of the esophagus, a dilatation of various degrees is observed, with a delay of the passage of the contrast substance through the entire length of the esophagus. Holzknecht and Olbert[17] showed that semisolid food slides down slowly in a ribbon-shaped mass spread out over the esophagus, while fluids come down quickly, although the passage through the cardia may not be involved at all. The degree of dilatation is also out of proportion to the clinical symptoms. When a secondary cardiospasm accompanies the atony of the esophagus, a differential diagnosis is impossible. We encounter cases in which the symptoms point to an obstruction in the esophagus while the lesion is at the cardiac end of the stomach. In these cases the food really accumulates above the cardia, and gives rise clinically to deglutition disturbance. The Roentgen ray shows dilatation above the obstruction.

The differentiating points by means of the Roentgen ray are: The dilatation above the obstruction is more or less localized, often simulating a diverticulum. The dilatation, although localized, may reach such a size as to hold from 300 to 500 c.c. of food. Also, by the inflation of the stomach either directly through the sound or by sodium bicarbonate and tartaric acid (a teaspoonful of each), the cardia of the stomach becomes more visible, and defects can be localized.

Through personal communication with I. S. Hirsch and his kind permission, we are in position to call attention to the fact that a uniform dilatation of the esophagus may be the result of a stomach completely contracted by fibrous tissue formation due to syphilis. Such dilatations of the esophagus in scirrhous carcinoma of the entire stomach are well known.

Cardiospasm due to traction on the esophagus by a ptosed stomach can be diagnosticated by studying the esophagus and stomach roentgenologically. Cardiospasm resulting from erosions, fissures or ulcer of the esophagus, or reflexly because of gallstones, renal colic, uterine trouble or genito-urinary diseases and those of toxic and metabolic nature, can be diagnosticated only after a careful history and complete examination of the patient

---

[16] Elsner and Ury: Arch. f. Verdauungskr., 1915, No. 4.

[17] Holzknecht and Olbert: Ztschr. f. klin. Med., lxxi, lxxii.

Treatment—This must be directed first of all against the etiologic factor Whenever we have any suspicion that the cardiospasm is of a reflex nature, be it, as cited in literature, from tonsils, middle-ear disease, or on account of an intra-abdominal condition, or worms, or if resulting from metabolic infections and toxic diseases it should be treated accordingly

We shall especially detail the therapeutic procedure in that great class of cases of cardiospasm which are due to functional disturbance in the vegetative nervous system, particularly the vagotonia In these cases systemic treatment is most essential An attempt should be made to influence favorably the nervous system by hydrotherapeutic measures, change of climate and mental and physical rest Psychotherapeutic measures and all other forms of suggestive treatment may have to be resorted to

Very important is the mode of feeding Early in the disease, and if we succeed in gaining the full confidence of the patient, it is often possible to have him partake of practically all kinds of food, thereby proving to him that there is no serious cause for the deglutition disturbance This, however, is possible only in the minority of cases In the great majority we must give the patient strict directions as to the kind of food, mode of taking it and the intervals at which it should be taken

With H Strauss, we believe that sparing the organ is indispensable, and may by itself without any other therapeutic agents lead to a cure

Diet—The food should be of a nonirritating, semisolid and highly nourishing nature, and should include cream, plenty of butter, well-prepared cereals in milk, cream soups, fine vegetables (spinach, carrots, green peas, cauliflower) prepared in butter or cream, and soft-boiled eggs Meat should be given scraped or minced, and bread in the form of toast or zwieback or biscuit, the patient allowing it to dissolve in the mouth before swallowing The temperature of food and drinks should be neither too hot nor too cold

When experiencing difficulty in getting food down, dry swallowing, as advised by Rosenheim, will often bring about an inhibition of the cardia and so allow the food to come down It is best to give the patient small quantities of food at frequent intervals

The length of time during which such a sparing diet is to be maintained must be judged according to the individual case It should really be carried out until the symptoms have disappeared and the confidence of the patient that he can take coarser food is established Change from the sparing to the exercise diet should be gradual For a long time we must interdict all spicy and irritating foods, liquors and even strong, effervescent drinks We prohibit smoking, chewing and tobacco snuffing In some cases pure olive oil in tablespoonful doses three times daily before meals serves as a soothing agent, and facilitates the passage of the food

Medicinal—Vagotonia being in these cases the causative factor, atropin is a most useful drug It should be given in doses of from 0 0005 to 0 001 gm hypodermically, once, twice or three times daily until the full physiologic effect is produced When the patient is even much improved, 0 5 mg of atropin sulphate every second day can be given for at least one month When subcutaneous treatment can for some reason not be carried out, extract of belladonna in the dose of from 0 015 to 0 03 gm in the form of suppositories is to be employed Bromids, valerian and tonics such as arsenic, iron and anesthesin, may have to be used if warranted by indications

Instrumental Treatment—When the treatment outlined above, carried out conscientiously for five or six days is of no avail alone, we must resort to the stomach tube or sound In using the stomach tube one of at least 20 mm caliber is to be employed On meeting the obstruction we should not try to force it down, but have the patient breathe and swallow quietly, and this will often relax the spasm and the tube will slide down One such successful treatment may impress the patient so that the spasm will not return If, however, we find that there is a tendency to a recurrence of the spasm, it is advisable to feed the patient for a few days through the stomach tube If by means of the stomach tube we do not overcome the spasm, an esophageal sound with a large sized olive is to be employed When this fails, the Gottstein, Einhorn, Elsner, or Krause esophageal dilator is to be resorted to It is sometimes surprising what one single divulsion by means of one of these dilators can accomplish even in protracted cases In long-standing cases in which the food accumulates in sacculated portions of the esophagus, esophageal lavage is indispensable In the severest cases, gastrostomy and stretching from below must be resorted to, and finally vagolysis (W Meyer) may have to be employed

3 East Eighty-Fourth Street—40 East Forty-First Street

THE RELATION OF OBSTETRICS, GYNECOLOGY AND ABDOMINAL SURGERY TO THE PUBLIC WELFARE *

THOMAS S CULLEN, M D
BALTIMORE

To be selected chairman of any section of the American Medical Association is an honor which a man may be proud of, to be named the presiding officer of this very important section was a compliment I little dreamed of, and I am deeply grateful for the confidence placed in me

An artist from time to time steps back from his easel to get a good view of the painting he has in progress The business man at regular periods takes stock to see what are his assets and liabilities We in like manner should at frequent intervals leave our labors and, figuratively speaking, ascend the mountain peak whence we may overlook the plain of our daily labors and may be able not only to see what has been accomplished but also to detect the weak spots, the points at which our endeavors have fallen short

In the time allotted to the presiding officer I shall briefly give a panoramic view of obstetrics, gynecology and abdominal surgery as I saw them twenty-five years ago, and shall then compare them with the same branches of medicine as we find them today

---

* Chairman s address read before the Section on Obstetrics Gynecology and Abdominal Surgery at the Sixty Sixth Annual Session of the American Medical Association San Francisco June 1915

THE OBSTETRICS, GYNECOLOGY AND ABDOMINAL SURGERY OF TWENTY-FIVE YEARS AGO

Obstetrics—In many localities, obstetrics and diseases of children were still linked together, the accoucheur not only looking after the child at birth but also attending to it during its early years With the gradual awakening to the fact that childrens' sore throats were often streptococcic in origin, that a case of puerperal fever might follow the too close association of the obstetrician with a case of scarlet fever, that diphtheria was due to a definite germ, and further, with the rapid development of pediatrics into an important specialty, it was deemed wiser to separate the practice of diseases of children from that of obstetrics Thus at the time of my graduation, just a quarter of a century ago, we had one relatively small, although splendidly equipped, lying-in hospital in a city of about 125,000 It was presided over by a most capable physician who limited his work almost exclusively to obstetrics He not only obtained excellent results but was also a most able teacher—a man who left his impress on all those who had the privilege of his instruction Few obstetric teachers did more conscientious work than did Adam Wright who, I am glad to say, is still with us

Gynecology—In my student days the pupils learned that there were anteversions, anteflexions, retroversions and retroflexions and that some of the displacements might be relieved by appropriate pessaries We were told of erosions of the cervix and had the value of zinc chlorid or Churchill's tincture of iodin as the proper agents in the treatment for such conditions drilled into us day after day Much stress was laid on laceration of the cervix, and many repairs were done Now and again a torn perineum was also treated surgically

Abdominal gynecologic operations were limited almost entirely to the removal of large ovarian cysts An occasional myomatous uterus was removed, but the fatality in this class of cases was so high that the operation was rarely attempted We occasionally heard of cancer of the cervix or of carcinoma of the body of the uterus, but the only operative procedures we were familiar with for this dread disease were curettage, and cauterization of the carcinomatous cervix To entirely remove the uterus for this condition was not thought of

Abdominal Surgery—Fractures were well handled and the surgery of the outside of the body and lateral lithotomy were successfully and dextrously performed, but abdominal operations were undertaken with great trepidation Surgery of the stomach was rarely if ever seen Gallstones were not removed, and I have seen a leading medical consultant watch an appendix abscess for over a week, hoping that it would soon rupture externally The appendix was rarely, if ever, removed As an intern in the medical ward, I watched a patient with a perforation due to typhoid ulcer for seven days — until the woman's death — when the diagnosis was verified at necropsy One of the abdominal cases most vividly impressed on my mind was that of a thin, elderly man with definite intestinal obstruction He was in good condition when he entered the hospital, but gradually grew worse and died after a few days Through a small hole in the mesentery a short loop of the small bowel had passed Even at necropsy this loop could be pulled back with the utmost ease

The experiences I have just related occurred in a large institution presided over by most capable medical men and surgeons I have mentioned them in no spirit of criticism whatsoever Their modes of treatment were similar to those carried out in nearly all the hospitals throughout the land, and the same hospital today is doing first-class up-to-date surgery To you who have been in practice these many years our former failures are too well known For those of you who have graduated within the last fifteen or twenty years it is well to realize what great strides have been made in abdominal surgery and gynecology during the last two decades

I will now pass to the consideration of the obstetrics, gynecology and abdominal surgery of today — a theme with which you are much more familiar

THE OBSTETRICS, GYNECOLOGY AND ABDOMINAL SURGERY OF TODAY

Obstetrics—The recognition of the absolute necessity of a thorough obstetric training is realized throughout the land, and adequate lying-in hospitals are being furnished in numerous cities — not in all, I am sorry to say The medical students in many of the schools not only see a large number of births but individually must look after a certain number of obstetric patients In addition, they receive a systematic course of instruction in obstetric pathology The fundamental handling of obstetric cases has naturally not undergone so marked a change as has the treatment of gynecologic and abdominal cases, because gynecology and abdominal surgery are relatively new fields

Gynecology—To the older members of the profession the "gynecologist" may still suggest the pessary and Churchill's tincture of iodin, and it is hard for them to realize that at the present day the surgical procedures dealing with the perineum and of the pelvis are on just as firm and stable a basis as is the surgery of other portions of the body The fundamental knowledge we owe in large measure to the pathologist, who has traced out the pathologic conditions from the beginning and has indicated the paths along which the disease may travel For example, given a patient with a gonorrheal infection, we have only to remember that the germ comes from without It may invade Skene's glands and the urethra, it may implicate Bartholin's glands, and then in succession the vagina, the cervix, the body of the uterus, the tubes and finally the pelvic peritoneum Knowing the mode of progression of this infection, we can the more intelligently adopt the appropriate medical or surgical procedure

We now know that a perineal operation alone may be of little value in the treatment of a case of prolapsus, and that failure will often follow if we do not at the same time shorten the round or uterosacral ligaments

Our knowledge of tubal and ovarian diseases is sufficiently accurate to enable us in many cases to do conservative operations instead of unsexing the woman Our studies of uterine tumors supplemented by an improved technic now enables us to do a supravaginal hysterectomy with little risk to the patient When a patient complains of uterine hemorrhage we can usually within twenty-four to forty-eight hours tell her with a surprising degree of accuracy the cause of this hemorrhage

Twenty-five years ago cancer of the uterus was nearly always fatal, today it is far more amenable to treatment Fully two thirds of all cancers of the body of the uterus can be permanently cured if operated on early, and some surgeons have been able to report 25 per cent of their patients operated on for cancer of the cervix as well five years later When the splendid work being done by the American Society for the Control of Cancer, the Cancer Campaign Committee of the Clinical Congress of Surgeons, and the Cancer Committee of the Council on Health and Public Instruction of the American Medical Association has sunk deep into the minds of the laity of this country, the results will be even more encouraging

I might dwell at length on the fundamental advances made by Howard A Kelly and others in the methods of studying diseases of the bladder and kidney, but with these far-reaching contributions to gynecology you are also thoroughly familiar

Abdominal Surgery—The advances in abdominal surgery during the last twenty-five years have been so marked that they are almost overwhelming Even fifteen years ago the ruptured appendix with or without a peritonitis was exceedingly common The general practitioner has become such a champion of early operation that in many clinics, if the appendix happens to be ruptured when the abdomen is opened, he at once chides himself for any possible delay that may have occurred Just here I should like to say that I am thoroughly convinced that in the past the one or more doses of calomel and the subsequent dose of salts have been in a large measure responsible for the appalling conditions found at operation Thus far I have never seen a patient die who was operated on for appendicitis before the appendix ruptured

Twenty-five years ago few operations were performed on the gallbladder Now if there be any prolonged discomfort or distress in this region, the gallbladder is promptly explored, in the vast majority of cases with permanent relief The stomach washings, which were so prevalent even a decade ago, have in a large measure disappeared as a result of the prompt removal of the appendix or drainage of the gallbladder according to the nature of the case, and are, as a rule, resorted to only when it is necessary to make gastric analyses

Operations on the stomach were formerly rarely undertaken Now gastro-enterostomy is a common and relatively safe procedure Ulcers are removed, strictures relieved, and where carcinoma is suspected, an exploratory operation is done at the earliest possible moment

Inseparably coupled with the advances made in this branch of surgery are the names of William J Mayo, John M T Finney, W L Rodman and many others

Intestinal surgery twenty-five years ago was in the experimental stage, and we in this country are indebted to Nicholas Senn, William S Halsted, Franklin P Mall, John B Murphy and others for their pioneer experimental work in this direction When intestinal obstruction develops, we do not now fold our hands saying that the case is hopeless, but at once do an enterostomy and, when the patient has improved sufficiently, hunt for the cause of the obstruction if nature has not in the meantime corrected it I might describe the advances made in the surgery of other parts of the abdomen, but with these you are also familiar The great strides made in abdominal surgery and in gynecology have of course been rendered possible by the fundamental labors of Louis Pasteur and Joseph Lister, and by those of Robert Koch,[1] who in 1878 published his important paper on the causation of diseases from wound infection Dr W W Ford,[2] in speaking of this work says

> In this paper Koch puts forward clearly the exact state of knowledge on the subject of surgical infections, he explains the difficulties which had to be overcome in working out their etiology and describes the results which others before him had achieved

To those of you who have had a share in this great advance it must have been the source of the utmost satisfaction To have lived during this period has been a great privilege The progress in abdominal surgery of the last twenty-five years has without a doubt been greater than will ever occur in a similar period The immediate death rate has been reduced from about 25 per cent to 2 or 3 per cent , thus, if we temporarily relieved all patients we could reduce our mortality only 3 per cent more

There is no reason, however, why we should be in the least complacent Many of our patients suffering from tuberculous peritonitis are only temporarily relieved We are helpless in our cases of general peritoneal carcinosis, and many cases of cancer of the stomach, intestine, uterus and ovaries are beyond our control There is still much to be accomplished

THE ALIGNMENT OF OBSTETRICS, GYNECOLOGY AND ABDOMINAL SURGERY

With the rapid development in these three branches, new problems have arisen, and it may be well for us to consider briefly the relation that these three branches in question should bear to one another

Obstetrics—A thorough knowledge of this art is infinitely more important to the student than is a clear understanding of gynecology The vast majority of medical students after graduation attend obstetric cases These young general practitioners, if living in a fair-sized town or city, may when in trouble be able to consult with an obstetric expert, but often the practitioner's time for temporizing is so limited that he must rely absolutely on his own initiative The physician living in the small town or in the country must pilot his patient through the dangerous shoals, relying entirely on the knowledge he has obtained from his former teachers, coupled with his own liberal supply of good horse-sense

Gynecologic cases rarely call for such speedy treatment If the general practitioner is uncertain as to his diagnosis and does not know just what to do, he can, as a rule, temporize for a day or two and in the meantime have a consultation with a gynecologist Furthermore, most of the gynecologic patients are well enough to journey to the city to see the consultant at his office or at the hospital

In obstetric cases the vast majority of the physicians are obliged to take full charge of the case irrespective of its gravity, hence the absolute necessity of our turning out graduates of medicine thoroughly grounded in the theory and practice of obstetrics Dr J Whitridge Williams[3] has given us a most comprehensive summary of the obstetric teaching in this country, and pointed out in no uncertain terms the growing need for better methods and facilities

---

[1] Koch Robert Untersuchungen uber die Aetiologie der Wundinfektionskrankheiten 1878

[2] Ford W W Bull Johns Hopkins Hosp 1911 xxii 420

[3] Williams J Whitridge Has the American Gynecological Society Done Its Part in the Advancement of Obstetrical Knowledge? The Journal A M A Jun 6 1914 p 1767

In years past some of the prominent members of the profession tried to confine their labors to obstetrics and gynecology A few succeeded, but as their practices increased the majority either became obstetricians or confined their work almost entirely to gynecology This was but natural, as these two branches cannot be well handled together In fact, obstetrics is similar to emergency surgery No one can decide exactly when the birth will take place, nor can he determine with any degree of accuracy how long labor will last

Supposing the surgeon who practices these two specialties arranges for four abdominal operations for tomorrow morning, and that just as he is leaving for the hospital to operate he receives an urgent call to come and see one of his primiparas who is in labor If this confinement lasts several hours, these four operations have to be postponed, the postponement causing much added anxiety not only to the four patients but also to the various relatives A few such delays as this, and the friends of the patients will naturally look for surgeons that can be relied on to fulfil their engagements promptly In a way this is very unfair to the obstetrician, inasmuch as the delay has been in no way his fault, and yet the fact remains that it has been due entirely to an attempt on his part to combine two specialties that are not compatible with one another

Again, let our surgeon arrange for a Wertheim operation on a cancer patient for tomorrow morning This is without doubt one of the hardest abdominal procedures The surgeon should be in the pink of condition, and it should be his first operation for the day During the night he is called out to an obstetric case and is detained several hours If he operates in the cancer case on schedule time, is he doing justice to himself or to his patient?

Is there any wonder that many physicians have given up this combination of obstetric and gynecologic practice? When asking your young medical men what line of work they are doing, they will often say that they are at the present time paying particular attention to obstetrics, hoping later to enter the surgical ranks, and many of the older men, who have good obstetric practices, are relegating that work to associates as their surgical practice increases Do you blame them? Few there are who would not do likewise When we look at the subject squarely, it is clearly evident that the obstetric specialist is the true missionary of the medical profession, and the most unselfish member in its ranks Even though he be the head of his department, his time is not his own and there is no hour of the day or night when he may not be called

From what Dr Williams has told us, the obstetric training in America is not what it should be Is it going to be improved if the head of the department, whenever possible, naturally but gradually drifts over into surgery, leaving the obstetric teaching, both practical and theoretical, largely in the hands of his associates? It is the duty of this Association to so improve the facilities and opportunities of the obstetrician that he will devote all his energies to the furtherance of this all-important branch of medicine I say "all-important," because on his teaching and practice depends in large measure the life and happiness of the coming citizens of this land

With the rapid progress in medicine and surgery, the needs of the obstetric clinics have been in large measure relegated to the background All large hospitals should have capacious and well equipped lying-in departments and I feel confident that in the near future even the smaller towns will erect up-to-date lying-in hospitals

The young obstetrician in his preparatory training should include a thorough knowledge of medicine, pathology and bacteriology, and should also serve as a surgical assistant for a relatively long period before taking up his work in obstetrics When he starts out as a trained obstetrician, he should be able at once to meet any abdominal or perineal surgical emergency that he may encounter The obstetrician has the right to demand that every possible facility be afforded him Not until this fact is so thoroughly realized that it is acted on by the profession, will the best men be content to remain in this important but arduous field of labor

If it could be so arranged that all private obstetric patients were delivered in maternity hospitals, the wear and tear on the obstetrician would be greatly lessened, and he would then have more time to work out the many important and still unsolved problems connected with this branch of medicine Some of the problems extend over into other branches Menstruation is undoubtedly one of these Much has been said about it, but thus far little is known It seems to me that it will require the combined labors of the anatomist, physiologist, physiologic chemist, obstetrician and gynecologist, together with much experimental work, before our knowledge on this subject becomes in any way complete

Gynecology and Abdominal Surgery—In the early days in this country travel was confined to the seaboard and rivers If one wished to go from Baltimore to New York, the journey was made almost exclusively by water, and was one extending over several days Gradually paths were carried back into the wilderness for a short distance, and later primitive roads were built and finally good stage roads It was then possible to travel by fast relaying from Baltimore to New York in a few days Now our express trains require four hours between these two points

The progress in abdominal surgery and gynecology bears a striking resemblance to the gradual evolution in travel In the beginning, only the outer surface of the abdomen and the vagina could be operated on At a later date an occasional excursion was made into the abdomen, as successfully carried out by McDowell With the epoch-making discovery of asepsis, the motive power was furnished, enabling us to traverse all parts of the abdomen Since that date the "civilizing" influences have been gradually extended until the abdomen and its contents are fairly well understood There still remain, however, a certain number of dismal swamps and everglades

The greater part of gynecology deals with the surgery of the lower abdomen Sometimes the operation is entirely confined to an exploration of the abdomen, but frequently, as in prolapsus cases, in order that a satisfactory result may be obtained, it is also necessary to carry out some vaginal operation in connection with that in the pelvis Where large tumors exist, the confines of the pelvis are temporarily carried far up into the abdomen, occasionally as high as the liver, and now and then the intestines are densely adherent and may require resection

In a no mean percentage of the cases digestive disturbances are associated with a pelvic lesion, and naturally require investigation at the time of operation. The surgeon, who largely confines his labors to the upper abdomen, not infrequently finds pelvic lesions which he little suspected before the abdomen was opened.

If the gynecologist confines his work entirely to the pelvis, he will not infrequently overlook lesions in the upper abdomen and the surgeon in like manner will miss serious pelvic trouble.

When you or I take a watch to the jeweler, we expect him to overhaul it thoroughly, examining all portions of its mechanism. If he returns it saying that the mainspring which was broken has been repaired, but the watch still will not go, we are naturally dissatisfied and will try a more competent man. If we do not carefully explore the abdomen in all cases, we are bound to overlook many little-dreamed-of pathologic conditions — conditions that will still render the patient uncomfortable.

Suppose I have done some pelvic operation and have overlooked gallstones or a duodenal ulcer. The patient will usually be far from well and will in a few weeks or months decide to call in a man capable of properly treating the upper abdominal lesion. What does this lack of preparedness on my part entail for the patient? Twice the length of time in the hospital, twice the amount of pain, twice the amount of hospital expense and two operation fees, not to speak of the added risk of the second operation. This is an age of economy, an age of short cuts and an age when by-products are utilized to the limit. It will not be long before the laity will demand that any one who enters an abdomen must be capable of doing everything necessary in that abdomen, and in those cases in which on account of the lesion present, a second operation is required, it will be necessary for us to explain carefully just why the abdomen must be opened again. Some one will say, "This is all very well, you should make an accurate diagnosis beforehand." This might be perfectly plausible if the anterior abdominal wall were made of plate glass, but even then, as we all know, sometimes, when the abdomen has been opened, it requires considerable search to find the exact location of the trouble. Now and then, when visiting the clinics of well-known surgeons, I cannot help feeling a twinge of wicked pleasure on seeing that their diagnoses do not always tally with the findings — it makes me feel thoroughly at home. The only abdominal surgeon who makes no mistakes in diagnosis is either the one who has no practice or the one who has given up the scalpel.

In recent years, business men have been greatly aided by economy or efficiency experts. Strangers come in, look over the business and see where, by more efficient methods, more may be accomplished, often with diminished labor. If we called in such an expert what would he say? In the first place, he would point out that it is not necessary for two classes of surgeons to work in one abdomen — a space the confines of which nature has so well defined. In the second place, he would say to both the surgeon of the upper abdomen and to the surgeon of the lower abdomen: "You have spent long years in preparing yourselves for doing abdominal surgery, you have mastered the fundamentals of medicine, you have a good knowledge of bacteriology and pathology and have perfected yourselves in the methods of operation, and yet, because one pelvis happens to contain a small round muscular body with two smaller bodies on the sides, one of you confines your work in large measure to men, the other to women. You are only running half capacity. There is absolutely no reason whatsoever why you should not both do abdominal surgery in the two sexes. It is practically the same, the only difference being that there is no operation in abdominal surgery that can compare in difficulty with a complicated Wertheim operation for cancer of the cervix." After seventeen years' experience in abdominal surgery in men and women, I myself am absolutely convinced that pelvic surgery offers many more difficulties and is harder of execution than is the surgery of the upper abdomen.

THE TRAINING OF THE ABDOMINAL SURGEON

Every man who aims to make abdominal surgery his life work should have a most thorough training in general medicine. He will then not forget that pain in the right iliac fossa does not always mean appendicitis. He will know that occasionally this soreness is present in an early stage of typhoid fever. He will remember that there is such a thing as lead colic and that in children severe abdominal pain may be the precursor of a pneumonia. A thorough knowledge of this most fundamental and broadest branch of medicine will save him from many pitfalls.

In addition to his course in general pathology he should have an extensive knowledge of the pathology of all the abdominal structures. The abdominal surgeon of the future must be a well-grounded pathologist; two years in the necropsy room would be of inestimable value to him. Then he should pay particular attention to the bacterial flora associated with the various abdominal lesions. He has now finished his apprenticeship, and should become an assistant of an abdominal surgeon. Here he will not only learn the various operative procedures and perfect himself in these, but he will also become experienced in the preparatory and after-treatment of the patients. The after-treatment, by the way, is of great importance, the postoperative journey often being rough and tempestuous, or relatively smooth, according to the manner in which the assistant handles the case. After several years spent in this way, the assistant is thoroughly competent to start out on his career. The surgery of the United States has made wonderful strides during the last decade. We must prepare ourselves to become the graduate school for the world.

CONCLUSION

In the brief time at my disposal I have hastily scanned the salient points relating to obstetrics, gynecology and abdominal surgery, the subjects treated in our section. Necessarily much has been omitted. The points that I want to leave with you are:

1. Obstetrics must be made more attractive, so that those entering this branch will not be tempted to leave it for less laborious fields.
2. Any surgeon opening the abdomen should be capable of doing everything necessary in that abdomen. In other words gynecology and abdominal surgery logically belong together.
3. This realignment of abdominal surgery is absolutely necessary if we are to accomplish the maximum amount of good for the patient.

20 East Eager Street.

EDWARD LIVINGSTON TRUDEAU

IN MEMORIAM

S ADOLPHUS KNOPF, M D
Professor of Medicine, Department of Phthisiotherapy, New York Post Graduate Medical School and Hospital
NEW YORK

Dr Edward Livingston Trudeau, whose father was a prominent practitioner in New York, was born in this city October 5, 1848 The father, being of French descent, decided to give his son a thorough knowledge of this beautiful language, and sent him to Paris to get his preliminary education There he attended the celebrated Lycee Bonaparte After the completion of his studies in the French capital, he returned to New York

Young Trudeau came back to the United States in 1867, undecided what career to choose He finally secured an appointment as midshipman to the Naval Academy, but remained there a very short time His brother had become ill, and the disease proved to be tuberculosis Trudeau s career as an antituberculosis fighter began by his nursing the hopelessly ill brother with that self-sacrifice and devotion characteristic of all the things he did throughout his long and eventful life He cared for his brother until the latter's death, hardly ever leaving his bedside Precautions to avoid infection were then unknown, and open windows and fresh air were contraindications There is no doubt that Edward contracted tuberculosis from his brother, yet one cannot help feeling that a Divine Providence ordained it to be thus, for his brother's illness led young Trudeau to choose medicine as a career, and his own illness made him a pioneer in the life-saving open-air treatment, a master of phthisiotherapy in general, a brilliant student of tuberculotherapeutics, a beloved physician, a savior of countless lives, and last but not least, the teacher of a large number of men who are now carrying on the work in all parts of the United States

How did all this come about? After graduating from the College of Physicians and Surgeons in 1871, Trudeau started in general practice, becoming an associate to Dr Fessenden Otis He worked hard to gain a foothold in practice, but the disease he had contracted from his brother became seriously active and he was obliged to give up He consulted Professors Loomis and Janeway, who advised a climatic change He went South, but returned to New York with very little if any improvement

Recalling the delightful times he had during vacations when hunting and fishing in the Adirondacks, and having always been an ardent lover of nature, he decided to spend his last days in the midst of what was to him the most congenial of environments He had given up all thought of practicing medicine Nevertheless, the Adirondack climate and the outdoor life with good, sound judgment to guide him not to overdo, and much complete rest, whenever possible, restored the young physician to almost absolute health within a few years, to the surprise of himself as well as his friends The winter, which was feared by all other invalids who came to the Adirondack Mountains, did even more for him than the summer, and to the astonishment of the inhabitants of Paul Smith's, where the doctor had made his home, he remained with them through the most rigorous winters

Trudeau proved on himself the curability of tuberculosis in pure air independent of the seasons of the year by means of a careful, regulated outdoor life A mind like that of Trudeau's could not be idle, and a heart like his could not see a suffering patient without offering help But he had his own notions of how to prescribe for the poor Thus it is told of him that once, in the early days, Fitz Halleck, a friend and neighbor, came in to tell the doctor that a poor family who lived back in the woods were in trouble and had sent him to get them medicine The doctor took a prescription pad and wrote on it "A sack of flour and a strip of bacon," and said "Here is some money, get that prescription filled at the store and take it to them"

The writings of Hermann Brehmer of Germany on the open-air, hygienic and dietetic treatment of tuberculosis in closed institutions (sanatoriums) and the discovery of the tubercle bacillus by Koch awoke in Trudeau an ardent desire to devote his entire life to the study and cure of tuberculosis The story of how he established his first laboratory to confirm Koch's experiments by finding the bacilli in the sputum of the tuberculous, and later carrying on original experiments in the hope of producing artificial immunity, is full of romance He selected a little room in his own house which he called a laboratory, and made his own thermostat, which was heated by a kerosene lamp The laboratory was heated by a wood stove which on many a cold night the doctor had to get up to replenish Yet, in spite of all these difficulties he succeeded in isolating the tubercle bacillus In 1893, while Trudeau was on a visit in New York, word reached him that the lamp which was connected with the thermostat had exploded and his home and laboratory had burned to the ground When Osler heard of the misfortune, he wrote the following characteristic lines "Dear Trudeau Sorry to hear of your misfortune, but take my word for it there is nothing like a fire to make a man do the phenix trick" And in reality, it was not very long thereafter that a magnificent building of stone and tile was erected at Saranac Lake which compares well with any of the best equipped laboratories of the country

There has, perhaps, never been a physician who had so many kind-hearted and wealthy friends and grateful patients as Trudeau Mr George C Cooper built the laboratory, and Mr A A Anderson endowed it, and Mr Horatio W Garrett of Baltimore presented the institution with a splendid library

From the laboratory many valuable contributions by Trudeau himself and by his associates and pupils, E R Baldwin, Lawrason Brown, I H Hance, H M Kinghorn, P A Levene, D C Twitchell, F H C Heise and others, have gone out into the world and have done honor to American antituberculosis research In 1908, on the occasion of Trudeau's sixtieth birthday, his former pupils and assistants presented him with a *Festschrift* containing many valuable contributions as a result of work done in that laboratory Trudeau's own careful studies on the use of tuberculin as a therapeutic agent have done much to show the danger of its indiscriminate use in the hands of inexperienced practitioners Trudeau's conservatism and painstaking care in all his investigations made him the ideal phthisiotherapeutist

But if the history of the laboratory, of which Trudeau remained director until his death, is interesting and far-reaching, the story of the sanatorium itself is of as great if not greater importance. It was in 1884 that the guides and residents of Saranac Lake donated money enough to buy five acres of land near the village in a spot selected by Trudeau because, as he told me on my first visit to the institution, he could always light his pipe there, showing it was sheltered from the strong winds by the conformation of the hills and woods. Two little shacks were erected which constitute the nucleus of what is today one of the greatest and most splendidly equipped institutions for the treatment of the tuberculous poor and those in moderate circumstances in the United States if not in the world.

Although a great admirer of the teachings of Brehmer as to outdoor life and of Dettweiler's theory of the rest-cure, Trudeau never favored the one-house system characteristic of the German sanatorium, and it is to him that we are indebted for what is known as the cottage plan sanatorium for the treatment of tuberculous patients. Over forty cottages accommodating from four to six patients each, an administration building, a library, a nurses' home and a church called "St. Luke's the Beloved Physician," besides the laboratory already mentioned comprise today the institution officially known as the Adirondack Cottage Sanitarium. It has served as a model to most of the existing sanatoriums now in operation in the United States. The number of patients who, passing through this institution, have gained their health and been restored to their earning capacity, thanks to the genius of Trudeau, can be numbered only by the thousands. How Trudeau, with virtually no means of his own was nevertheless able to build this vast institution and maintain its workings has been a wonder to the world. The explanation is to be found in his optimism and in the generosity of his countless wealthy friends who were always willing to give when he asked for money for the building of a cottage or for this or for that.

Patients from all over the world flocked to Trudeau for counsel and advice. One of the most distinguished of them was Robert Louis Stevenson. On Oct. 13, 1915 a memorial tablet was unveiled in Saranac Lake in honor of this great poet. Owing to illness, Trudeau could not be present at the ceremony. Trudeau and Stevenson were friends and fellow sufferers at one time, and it was gratifying to Trudeau to see his friends' memory thus honored. He sent the following message, which was probably the last of his public utterances:

> It is a great regret that illness prevents me from attendance on the ceremony of unveiling the tablet to Stevenson. I think the memorial most appropriate, and naturally am greatly pleased that it should be placed here in Saranac Lake. No better tribute could now be made to him, and it is a great satisfaction to me to have lived to see it done.

Those who came into close contact with Trudeau will recall his personal charm. Tall, slender but wiry, with a wonderful head and pleasing smile, he was the ideal physician and friend. His humor never left him no matter how trying the hour. A few years ago when he had had one of his unpleasant relapses he wrote me as follows: "I am still on my chair on my porch to which I am glued like the fly on the fly paper, and still have a nurse. I am afraid I don't 'enjoy' poor health as some people seem to, and it is much preferable to play the part of doctor than that of patient."

Few men of the medical profession were so greatly beloved and honored as he. His alma mater, the College of Physicians and Surgeons, now the medical department of Columbia University, conferred on him the honorary degree of M.Sc. in 1899, and the McGill University of Montreal gave him the degree of LL.D. in 1905. In 1910 he was tendered the presidency of the Congress of American Physicians and Surgeons, one of the highest honors within the gift of the medical profession. In May, 1913, he received the degree of LL.D. from the University of Pennsylvania. Custom requires the presence of those about to receive the degree, but in this case, owing to the doctor's illness at the time, precedent was waived and the degree conferred "in absentia," an added honor.

At the International Congress on Tuberculosis in Washington, Trudeau received an ovation whenever he appeared on the platform, and what he said then as greeting to the delegates will typify the man's labors and great modesty. Speaking of the achievements in the tuberculosis work from the time when he started his professional career up to that day, he said:

> For thirty-five years I have lived in the midst of a perpetual epidemic, struggling with tuberculosis both within and without the walls and no one can appreciate better than I do the great meaning of such a meeting. I have lived through many of the long and dark years of ignorance, hopelessness and apathy when tuberculosis levied its pitiless toll on human life unheeded and unhindered, when, as Jacoud has tersely put it: The treatment of tuberculosis was but a meditation on death. But I have lived also to see the dawn of the new knowledge, to see the fall of the death rate of tuberculosis, to see hundreds who have been rescued, to see whole communities growing up of men and women whose lives have been saved and who are engaged in saving the lives of others. I have lived to see the spread of the new light from nation to nation until it has encircled the globe and finds expression today in the gathering of the International Congress of Tuberculosis with all that it means to science, philanthropy and the brotherhood of men.

The services which Trudeau has rendered to the antituberculosis cause, to the medical profession, and to mankind at large cannot be too highly estimated. His example has been followed by many. In 1885 his was the only institution in the United States deserving the name of sanatorium and consecrated to the exclusive treatment of the tuberculous. Today there are in the United States 600 sanatoriums and hospitals for the exclusive care and treatment of this class of patients. Aside from these 600 institutions, there are 450 dispensaries which take care of the ambulant tuberculous patients, and a great number of day camps, night camps, open-air schools and preventoriums.

Trudeau was elected the first president of the National Association for the Study and Prevention of Tuberculosis. It is due to his inspiration that we count today in this country 1,500 associations which look up to the national association as their mother society.

Of late Trudeau suffered a great deal as a result of his old tuberculous lesion. When artificial pneumothorax came into vogue a few years ago, he submitted himself to this treatment, and for a time it gave very gratifying results. It was my privilege to see him shortly after he had ceased the treatments. With the enthusiasm of a teacher, he showed me a series of roentgenograms of his own chest taken before and after fillings with the nitrogen gas, explaining to me what was obscure or interesting, quite oblivious that he was talking of his own case I ventured to ask him why he had stopped the treatment For a moment he became sad and then said, "It did not do me any more good, I have not been able to sleep at night since the last operation," and then he added smilingly, 'You men who are doing artificial pneumothorax are far from knowing all about it" In this he was only too right And then the conversation turned, he forgot again that he was a sufferer, and his thoughts were yonder with his patients in the sanatorium He talked of his anxiety concerning the completion of an endowment fund for his beloved institution May it be forthcoming

Though illness and the loss of two beloved grown-up children — a son and a daughter — had left an impress of sadness on Trudeau, he kept up admirably, was optimistic and cheerful most of the time, and until the very last took the keenest interest in the institutional and laboratory work of the Adirondack Cottage Sanitarium

We are indebted to him for a most remarkable address on "The Value of Optimism in Medicine," which should be read and reread by every physician [1] I venture to quote two of the most striking paragraphs from this wonderful address, delivered before the Congress of American Physicians and Surgeons in 1910

> Optimism is a product of a man's heart rather than of his head, of his emotions rather than of his reason, and on that account is rather frowned upon by many physicians whose scientific training naturally leads them to depend safely upon the qualities of the intellect, and look with suspicion upon any product of the emotions We doctors are too apt to look upon "brains"—that is, a man's purely intellectual attainments—as the criterion of his chances for achievement in life, and to ignore and even deprecate those qualities which are closely related to his emotions as rather likely to mislead and hamper him in his career And yet optimism is a prominent factor in anything a man may achieve in life It is a mixture of faith and imagination, and from it springs the vision which leads him from the beaten paths, urges him to effort when obstacles block the way, and carries him finally to achievement, where pessimism can see only failure ahead Optimism means energy, hardships and achievement, pessimism, apathy, ease and inaction Optimism may, and often does, point to a road that is hard to travel, or to one that leads nowhere, but pessimism points to no road at all .
>
> The practicing physician and surgeon must have optimism if he is to develop a full degree of efficiency in meeting the terrible emergencies of acute illness and accidents, or the long-drawn-out struggle with lingering and hopeless disease, and at the same time inspire his patients with a degree of optimism which means everything to them in the ordeals they have to pass through To the practicing physician and surgeon, optimism is even more necessary than to the scientists, for besides molding the doctor's character and guiding him in his decisions as to the case, his optimism is at once reflected in the patient and influences his condition accordingly How great this influence may be we are learning more and more to appreciate In his hour of need the patient has no means of judging of the physician's intellectual attainments, it is faith that radiates from the doctor's personality that he seizes upon and that is helpful to him Any encouragement that emanates from the physician will help keep up the patient's courage and carry him through long days of illness and suffering to recovery, and, where recovery is impossible, if the doctor's optimism—that is, his faith—is of the kind that extends to the future, not only here but hereafter, it may dispel for the patient much of the darkness and despair which brood over the end of life, and perhaps even illumine for him that vast forever, otherwise so shrouded in impenetrable gloom

Now to give the full weight and meaning to this address on optimism, let me quote from one of Trudeau's biographers, Mr Alfred L Donaldson, the description of the circumstances under which this address on optimism saw the light of day

> It was my privilege to be calling on the doctor shortly after he had delivered it, and our talk veered around to it Laughingly, with no thought of anything but the grim humor involved, he told me the story of its composition He had been suffering from one of his most serious relapses—high fever, acute coughing spells and broken sleep He woke in the small hours of each morning, and lay tossing uncomfortably on his bed Then it occurred to him that instead of lying there idly between coughs, thinking of himself and his troubles, he might better concentrate his mind on some preparation for the great meeting over which he had been asked to preside So he turned on the light near his bed, reached for pad and pencil, and began the rough draft of this notable address on optimism Not long after, he was able to leave his bed and deliver it in person What it means to turn out optimistic literature under such conditions only those who have tasted them can realize, but the unusual feat is essentially typical of Dr Trudeau's whole career

The same all-pervading optimism, faith in God, and faith in his friends and colleagues, faith in the present and the future, permeated the life of this beloved physician from the beginning to the end of his earthly career when his great soul passed out, Nov 15, 1915, at the age of 67 He showed us by his own life, with its sufferings and trials, how to forget self, and taught us that by consecrating our lives to high ideals and true service to our fellow men we are rendering the highest service to God

A few weeks before his death there occurred an event that must have tended to make the last hours of the great Trudeau supremely happy An ardent admirer of his, Mr Samuel Mather of Cleveland, made it possible, through a magnificent gift, for a postgraduate medical institution, to be known as the Trudeau School for Instruction in Tuberculosis Science, to be established ere long in Saranac Lake Thus, Trudeau's noble wish to spread the best scientific knowledge of the prevention and cure of tuberculosis has become realized

I deem it an honor to have been privileged to write this memorial to one so universally beloved and esteemed as Dr Trudeau What his friendship, inspiration and example have meant to me personally, how he encouraged me in my labors at the beginning of my career as an antituberculosis worker, how he stood by me in hours of trial, anxiety and discouragement, I shall never forget The many messages of cheer and encouragement he wrote me during the twenty years of our acquaintance will always remain to me precious and grateful souvenirs of a valued friend, a great teacher, and lover of his kind

Some day, when the Great White Plague — that disease of the masses due to poverty, want, ignorance and social injustice — will be no more, the name of Edward Livingston Trudeau will be gratefully remembered as one who taught us how to fight and conquer this great enemy of mankind

Pellagra —It is reported that there were 1,306 deaths from pellagra in South Carolina from Jan 1 to Oct 31, 1915, giving an annual death rate from this cause of 81 2 per hundred thousand

---

[1] This address was printed in the Transactions of the Congress of 1910, Volume VIII, and in the American Journal of the Medical Sciences, July, 1910

THE DIAZO AND UROCHROMOGEN REACTIONS IN PULMONARY TUBERCULOSIS*

A N SINCLAIR CM, MB
Medical Superintendent, Leahi Home
HONOLULU H I

This investigation of the diazo and urochromogen reactions in pulmonary tuberculosis was suggested mainly by an article in which Schäffle[1] pointed out, as significant features of his examination, the "difference in mortality percentages between the positive and negative cases and particularly the high death rate among those with a negative diazo and positive urochromogen test"

Schäffle also referred to the original work of Weiss, who, after seven years of investigation, confirmed the observations of Koch that death invariably followed the persistent presence of the diazo reaction in the urine of the tuberculous Weiss also refers to the frequent disappearance of the diazo reaction shortly before death in tuberculous cases

The investigation of these reactions was further instigated by the statement of Webster,[2] that "the presence of urochromogen is a contraindication to the tuberculin treatment in tuberculous conditions"

The investigation, therefore, had a twofold purpose (1) to discover, if possible, the value of the diazo and urochromogen reactions in the prognosis of pulmonary tuberculosis, and (2) to determine whether or not the presence of one or both of these reactions afforded a reliable indication for or against tuberculin treatment in this disease

The investigation covers 146 cases of pulmonary tuberculosis, the results obtained with reference to the diazo and urochromogen tests are given in Table 1

Of the 146 cases examined, only one examination was made in forty-two cases, owing to death occurring shortly or other preventing cause

Successive examinations were made in 104 cases, these 104 cases giving the results shown in Table 2

Of the twenty-nine cases successively examined showing originally a negative diazo and negative urochromogen (which for clearness I shall call normal) reaction, fourteen showed a later change, and in all these instances this change was to a diazo negative and urochromogen positive Of this fourteen, eight improved, five were progressive and one patient died (Table 3) Of the seven patients showing a positive reaction to both tests originally, a change was noted in none and all died

Of the ten patients showing a positive diazo and negative urochromogen originally, six changed Two changed to normal, one, in a day or two, showing a second change to a negative diazo and positive urochromogen (a reversal of the original reaction) and improved The other remained normal, and died in a few days

The remaining four were followed at once by a diazo negative and urochromogen positive (a reversal of the original reaction) and two of the four improved, although one showed a versatility in the art of changing, this diazo negative and urochromogen positive being succeeded first by normal and later by a diazo negative and urochromogen positive

One of the remaining two was followed by normal and progressed, the other by a positive diazo and negative urochromogen (the original reaction) and died

TABLE 1—RESULTS OF INVESTIGATION

Reactions	Total No	Improved No	Improved Per Cent	Progressed No	Progressed Per Cent	Died No	Died Per Cent
Both negative	38	27	71	7	18 4	4	10 6
Both positive	7					7	100
Diazo + urochromogen —	23	5	21 7	6	26 1	12	48 2
Diazo — urochromogen +	78	62	79 5	12	15 4	4	5 1

TABLE 2—RESULTS OF SUCCESSIVE EXAMINATIONS IN 104 CASES

Reactions	Total No	Improved No	Improved Per Cent	Progressed No	Progressed Per Cent	Died No	Died Per Cent
Both negative	29	21	72 4	6	20 7	2	6 9
Both positive	7					7	100
Diazo +, urochromogen —	10	4	40	3	30 3	3	30 3
Diazo —, urochromogen +	58	45	76	11	19	2	5

TABLE 3—CHANGES IN REACTION

Reaction Original	No	Change	No	Improved	Progressed	Died
D —, U —	29	D —, U +	14	8	5	1
D +, U +	7					7
D + U —	10	D — U —	2	1*		1
		D — U +	4	2†	1‡	1§
D — U +	58	D — U —	20	18		2
		D + U —	2		1	1

* Followed by D — U +
† One patient changed to normal and later to D — U +
‡ Followed by normal
§ Followed by D + U — (original reaction)

---

* Read before the Hawaiian Territorial Medical Society Nov 6 1915

[1] Schäffle Karl A Comparison Between the Urochromogen and Diazo Tests in the Prognosis of Tuberculosis, The Journal A M A, Oct 10 1914 p 1294

[2] Webster R W Diagnostic Methods Chemical Bacteriological and Microscopical Ed 4 Philadelphia P Blakiston's Son & Co 1914 p 245

Of the fifty-eight cases showing originally a negative diazo and positive urochromogen, twenty-two cases showed a change in reaction

Of these twenty-two, twenty were to normal (negative to both tests) of which eighteen improved and two patients died The remaining two cases showed a reversal to a diazo positive and urochromogen negative, one progressed and one patient died (Table 3)

So far as prognosis is concerned, therefore, my results do not agree with those of the authors quoted above The results disagree in two important particulars

1 I have not found a particularly high death rate among those patients showing a negative diazo and positive urochromogen On the contrary, from 76 to 79 per cent of patients showing this reaction have improved

2 I have not found any case in which the diazo and urochromogen tests were both positive in which the diazo disappeared before death This observation is admittedly of little value, as only seven such cases were observed On the other hand, when the diazo is present but not the urochromogen reaction, the peculiar fact is observed, from the limited data collected, that in fatal or progressive cases the diazo does here disappear, but should the urochromogen take its place, a favorable prognosis may be ventured

The second purpose of this examination, to discover the value of the urochromogen reaction as an indication for or against tuberculin treatment, has also resulted in findings contrary to those of the author quoted

During the year there were admitted to hospital fifty-nine patients with pulmonary tuberculosis with the urochromogen reaction and with the following stadia L 1 S, 4, L 2 S, 44, L 3 S, 10, L 3 S, 1

Of this fifty-nine, twenty-three were (according to the temperature and other indications) favorable for and received tuberculin treatment and their stadia were as follows L 1 S, 4, L 2 S, 19, L 3 S, 0

The result is given in Table 4

TABLE 4 — RESULT OF TUBERCULIN TREATMENT IN TWENTY THREE CASES

Stage	Improved	Progressed	No Change	Died	Total
L 1 S	4	0	0	0	4
L 2 S	15	1	3	0	19

Of the nineteen cases in which there has been improvement, the urochromogen reaction has disappeared in seven and will probably disappear in others as treatment progresses Thus it would appear that almost 40 per cent of those treated with tuberculin would not have received such treatment if the urochromogen reaction had been accepted as a contraindication to such treatment, and as 82 per cent of those with the urochromogen reaction improved markedly under tuberculin treatment, the urochromogen reaction would not appear to be of much value as a contraindication

On the other hand, the urochromogen reaction appeared in six cases while under treatment, four of these patients improved and in two there was no change or progression An interesting fact in regard to the last two is the fact that tuberculin treatment was stopped some time before the appearance of the urochromogen reaction, the inference being, in these cases, that other factors contraindicated tuberculin treatment before the urochromogen reaction

It has further been observed that patients with a urochromogen reaction may, under tuberculin or other treatment, improve to the extent of presenting the physical signs of a healed lesion and all other indications of an arrested case, and the urochromogen reaction still be positive

Since the urochromogen reaction is undoubtedly an indication of abnormal metabolism, it may be that no patient can be classified as arrested who still presents the urochromogen reaction This sign, therefore, may yet prove of value in this connection

Concerning the diazo reaction as a contraindication to tuberculin treatment, it should suffice to say that while the diazo reaction has never been taken into consideration as a factor in deciding on tuberculin treatment, no patient with tuberculosis noted as having the diazo reaction has been treated with tuberculin

Although this investigation may seem to have led nowhere; this is not the case, as the following conclusions can be drawn from it

1 The only favorable change from normal (both tests absent) is to a negative diazo and positive urochromogen

(This would also mean that at an original examination it is the only favorable deviation from normal)

2 A change from either negative diazo to either positive diazo is most unfavorable

3 The appearance of both reactions is of most grave portent Such patients generally die

4 When there is a change from a positive diazo and a negative urochromogen, the only favorable one is a reversal (that is, to a negative diazo and positive urochromogen)

When the change is to positive to both tests a fatal issue is prognosticated On the other hand, a change to normal (contrary to what we would expect) is of very grave prognosis If the urochromogen reaction does not appear concomitantly with the disappearance of the diazo (or at least in a day or two) the prognosis is of the worst

5 The disappearance of the diazo reaction (when both tests have been positive) has not been observed as heralding a fatal issue

6 The disappearance of the diazo may be grave or favorable (a corollary to No 4) — grave if the urochromogen does not take its place, favorable if it does

7 The urochromogen reaction is probably of little value as a contraindication to tuberculin treatment, and should it be of any value at all, the probabilities are that other factors show such treatment to be contraindicated better and earlier than the urochromogen reaction

8 This also applies to the diazo reaction as a contraindication to treatment

9 Should the urochromogen reaction eventually prove of any value in the tuberculin treatment, I believe it will be for a diametrically opposed purpose to that referred to (as a contraindication to beginning tuberculin treatment) in other words, its presence may be a valuable contraindication to discontinuing tuberculin treatment in cases to which all other signs point as arrested On this point I have not sufficient material as yet to say definitely I can only state that it appears here to be of value, and I hesitate now to discontinue tuberculin in arrested cases which show this reaction

ANAPHYLACTIC FOOD REACTIONS IN DERMATOLOGY

PRELIMINARY REPORT *

ALBERT STRICKLER, M D
Assistant Dermatologist Philadelphia General and Samaritan Hospitals
Instructor in Dermatology, Philadelphia Polyclinic and
College for Graduates in Medicine

AND

JOSEPH M GOLDBERG, M D
PHILADELPHIA

The constitutional phenomena of hypersensitiveness were observed long before the process was understood In its infancy, toxicity, embolism and other factors were held responsible for the occurrence of these symptoms It was Richet who first coined the term "anaphylaxis," by which we mean a condition of unusual or exaggerated susceptibility of the organism to foreign proteins

Eli Moschowitz[1] thus summarizes the essential attributes of anaphylaxis

1 There is previous susceptibility, which may be congenital or acquired

2 The reaction is specific

3 The reaction can be obtained by mouth as well as by injection, also by cutaneous inoculation, such as rubbing into abraded surfaces

4 Acquired susceptibility can be transferred by heredity to posterity

5 The constitutional symptoms are respiratory disturbance, dyspnea, edema, tonic muscular spasms, glandular swellings, joint effusions, albuminuria, and hyperemic and urticarial skin eruptions

6 All skin conditions thus far considered as anaphylactic are associated with eosinophilia, such as urticaria, eczema, prurigo, Duhring's disease, pemphigus, psoriasis and pellagra

In 1839 Magendi found that rabbits which had been injected with egg albumin died after a repetition of the injection Sixty-five years later Theobald Smith observed similar phenomena following injections of horse serum In 1898 Hencourt and Richet found that repeated injections of eel serum into dogs caused increased susceptibility in these animals In 1903 Arthus showed that, when rabbits were injected at first subcutaneously and later intravenously or intraperitoneally with milk or serum, serious symptoms of dyspnea, convulsions, diarrhea or even death ensued Rosenau and Anderson observed that guinea-pigs sensitized with watery extract of peas reacted violently to subsequent injections of the same material, three out of five died

Raubitschek sensitized rabbits with saline extracts of lentils and beans and obtained severe and often fatal reactions on subsequent intravenous injections of homologous extracts Karasava showed that guinea-pigs can be made susceptible to rice and wheat, and dogs can be made anaphylactic to rice extracts

Feeding of cow's milk, ox blood and dried egg to guinea-pigs for from three to eight weeks renders them sensitive to these substances, and this hypersusceptibility is specific

The first observation of the local phenomena of anaphylaxis was that of Jenner in 1798, when he wrote of an "efflorescence of a palish color," about the parts where variolous matter had been injected into a woman who had cowpox thirty-one years before In 1903, Arthus described the local phenomena of anaphylaxis, which are redness, swelling and a wheal, and this has been named "Arthus' phenomenon of anaphylaxis "

In our studies the extracts of the following foods were prepared beef, pork, mutton, fish (porgy), clams, lobster, wheat, oatmeal, cow's milk, egg white, barley, rice, tomato and strawberry, in all fourteen food products The method of preparation was as follows

PREPARATION OF THE EXTRACTS

Beef—Ten gm of fresh beef were cut up finely and ground with sand in a sterilized mortar until the fibers were broken down After this process was completed, 200 c c of alkalinized sodium chlorid containing 0 1 per cent tricresol were added, and the entire suspension was placed in a sterile flask in the incubator, where it remained for thirty-six hours It was taken out, and the material placed in small sterile flasks containing sterile beads and placed in a shaking machine for two hours, at the expiration of this time the flasks were again transferred to the incubator, where they remained for another period of thirty-six hours This mixture was then filtered through sterilized filter paper into another sterile flask, and the amount of the filtrate measured In the case of beef it was 55 c c, and to this 20 c c of absolute alcohol were added The solution was placed in a rather flat evaporating dish and placed on a water bath at 80 C to drive off the fluid and leave the solid residue The dried material was scraped off the surface of the dish and placed in a desiccator, to make absolutely certain that all the water had been driven off, and that the residue was perfectly dry, 5 gm were carefully weighed out and dissolved in 100 c c of sterile distilled water containing 0 25 c c of tricresol[2] The entire amount of beef residue did not go into solution and it was determined to find out accurately just how much did go into solution The contents were filtered through a sterile filter, which had been previously weighed, in the case of beef it was 1.260 gm., but with the beef extract it weighed 1 131 gm, showing that 0 129 gm did not go into solution, and that, subtracted from 0 5 gm, left 0 371 gm in solution

The solution was cultured in glucose agar for three days, and proved to be sterile and was placed in sterile bottles ready for use

Pork—The same steps were followed Twenty gm of the material were used with 200 c c of salt solution containing 0 5 per cent phenol (carbolic acid) The filtrate was 154 c c, and to it 60 c c of absolute alcohol were added The residue with filter weighed 1 1 gm, while the filter weighed 1 015, leaving 0 085 gm which did not go into solution, and that subtracted from 0 5 gm showed that 0 415 gm were dissolved in the sterile The solution was cultured as above and proved sterile

The nitrogen determination of the residue showed 3 82 per cent, and of protein 23 9 per cent

Mutton—Twenty gm of this material were employed with 200 c c of normal salt solution plus 0 6 per cent. phenol The amount of filtrate was 145 c c, to which 60 c c of absolute alcohol were added Five-tenths c c of dried material was dissolved in 100 c c of sterile distilled water plus 0 25 c c of tricresol The solution was filtered and the weight of the filter was 1 19 gm, and the weight of the residue plus the filter was 1 120 The amount not in solution was 0 03 gm Subtracting this from 0 5 gm leaves 0 47 gm in solution The solution was cultured and proved sterile The percentage of nitrogen mutton residue was 3 63 per cent, and the protein percentage was 22.7

Fish—Twenty gm of porgy were rubbed up with sand and 200 c c. of salt solution plus 0 5 per cent *phenol* After putting this solution through the same procedure as the materials described above, it was found that the filtrate amounted to 159 c.c, and to this 60 c c of absolute alcohol were added Five-tenths gm of the dried residue was dissolved in 100 c c of sterile distilled water plus 0 25 c c of tricresol, and the solution filtered, the amount of the residue which did not dissolve was 0 025 gm, and this subtracted from 0.5 gm showed 0 475 gm in solution The solution proved sterile The percentage of nitrogen was 3 23, and the percentage of protein was 20 2

---

* From the Laboratories of the Philadelphia Polyclinic and College for Graduates in Medicine.

* Read before the Pathological Society of Philadelphia Nov 11 1915, and reactions shown before the Philadelphia Pediatric Society Oct 12 1915

[1] Moschowitz, Eli Eosinophilia and Anaphylaxis New York Med. Jour 1911 xciii 15

[2] The nitrogen determination of the residue shows it to contain 4 72 per cent. nitrogen or 29 5 per cent protein which percentage compared very favorably with the amount of protein found in beef

CASE REPORTS

Case	Diagnosis	Extent	Duration	Materials Used in Injection	Reactions	Diet
1 A G	Seborrheic dermatitis	Generalized	8 years recurrent	Egg, cow-casein fish pork, beef, tomato, clam	Negative after 48 hours	For 2 years, coffee, bread, butter
2 M O	Eczema	Hands and face	3 weeks	Beef cow casein, fish egg, tomato, pork	Negative after 48 hours	
3 J F	Papular eczema	Both arms		Tomato, pork, beef wheat, egg cow casein, clam, oatmeal barley, alkaline solution	Negative	
4 M P*	Seborrheic eczema	Face scalp and body	Several years	Egg, beef, wheat cow casein clam tomato, oatmeal, alkaline solution, pork, barley	Positive to milk	
5 F R†	Eczema	Face		Egg, beef, wheat cow-casein, clam, tomato, oatmeal, alkaline solution, pork, barley	Milk positive, wheat, weakly positive	Milk, bread pudding and butter
6 L H	Papular eczema	Generalized	1 year	Egg beef wheat, cow casein clam, tomato oatmeal pork, barley, alkaline solution	Negative	General.
7 J F	Eczema	Arms and legs	2 years recurrent	Beef, wheat egg, cow casein	Negative	
8 T P	Chronic eczema	Generalized	22 years	Tomato, pork wheat, egg, beef, cow casein clam, oatmeal barley, alkaline solution	Tomato positive	General
9 B McB	Eczema	Generalized	9 months	Cow casein, egg wheat beef, clam, tomato, oatmeal, alkaline solution, pork barley	Negative	General
10 A C, private case	Eczema	Generalized	3 weeks	Cow casein egg wheat beef clam pork, tomato, oatmeal, alkaline solution	Suggestive, positive to pork	General
11 M F, private case‡	Eczema	Arms and hands	4 years, recurrent	Crab fish, pork, egg mutton rice, beef, tomato	Tomato positive fish crab suggestive	General
12 M T	Eczema	Generalized	5 years	Fish beef egg, pork wheat, mutton	Negative	
13 J C	Eczema	Hands and feet	6 months	Strawberries, oatmeal, fish, beef	Negative	General
14 M McG	Eczema	Arms and legs	3 months	Tomato egg, pork milk, fish, clam	Positive to fish	General
15 Mr F	Urticaria squamous eczema of hands	Generalized	1½ years eczema 6 months	Tomato pork, cow casein, fish egg, clam rice oatmeal crab, mutton, beef, barley	Suggestive to beef not well marked	General.
16 W O	Dermatitis herpetiformis	Generalized	18 years	Beef wheat, cow-casein egg, clam, tomato, pork, alkaline solution, barley	Clam, positive oatmeal, casein suggestive	General
17 J O	Dermatitis herpetiformis	Generalized	Many years	Beef wheat cow casein egg, clam, oatmeal alkaline solution, pork, barley	Beef cow casein positive, egg wheat weakly positive	General
18 J C	Psoriasis			Clam, tomato oatmeal, pork, barley, alkaline solution	Negative	General
19 S R	Psoriasis			Beef cow casein, wheat, egg	Negative	General
20 J R	Psoriasis			Beef, wheat, egg, cow-casein	Negative	General
21 N M	Psoriasis			Beef, egg, milk, fish	Negative	
22 N N	Psoriasis		7 years	Fish, milk egg, pork, beef	Negative	Low protein
23 B	Psoriasis			Fish cow casein egg, pork, beef	Negative	
24 Mrs B	Psoriasis			Fish, cow-casein egg pork, beef	Negative	Low protein
25 G M	Psoriasis		6 months	Beef, cow-casein, fish egg, tomato, pork	Cow-casein, positive	General
26 M S	Acne vulgaris	Face		Rice fish, beef pork, barley egg cow casein	Negative	General
27 E	Acne vulgaris	Face		Pork, egg, wheat cow casein	Negative	General
28 R P	Acne vulgaris	Face		Beef, egg, fish cow-casein	Negative	General
29 F S §	Urticaria		4 days	Fish, beef, crab	Positive to crab	

* Diet corrected and patient made marked improvement

† Diet corrected eczema cleared up except around the ears

‡ Tomato withdrawn from diet and patient got well in two weeks and remained well

§ Gave history of attack following eating of crabs

Crab—Twenty gm of crab were rubbed up with sand, and 200 c c of the normal salt phenol solution added After shaking, incubating and filtering, it was found that the filtrate amounted to 122 c c, and to this 55 c c of absolute alcohol were added Five-tenths gm of the dried residue was dissolved in 100 c c of the tricresol sterile distilled water mixture, and it was found that it all dissolved It was cultured in glucose agar, proved sterile and was ready for use The percentage of nitrogen was 2 61, and of protein 16 3

Lobster—The same procedure and the same quantities which were employed in preparing crab were also employed in preparing lobster The dried residue was all dissolved The percentage of nitrogen was 4 73, and of protein 16 3

Wheat—Eighteen gm of wheat (flour) were rubbed up with 200 c c of alkalinized sodium chlorid (normal sodium chlorid, 500 c c , normal sodium hydrate, 5 c c , phenol, 0 5 c c [0 1 per cent.] The solution was added little by little during the process of trituration The solution was placed in a flask in an incubator for three days, during which time it was shaken for two hours in a shaking machine The solution was filtered, and 289 c c. was found to be the amount of the filtrate To this 100 c.c. of absolute alcohol were added The solution was placed in an evaporating dish on a water bath The dried residue was removed from the dish and 0.5 gm dissolved in 100 c.c of the tricresol sterile distilled water It was filtered, as all did not dissolve, and the amount of undissolved residue was 0 15 gm , that subtracted from 0 5 gm shows that 0 35 gm were in solution The solution proved sterile on culture The percentage of nitrogen was 1.77, and that of protein 11 1

Oats—Nine gm of oatmeal were rubbed up with 150 c c of alkalinized sodium chlorid solution After incubation, shaking and filtering it was found that the filtrate amounted to 212 c c To this, 80 c c. of absolute alcohol were added Five-tenths gm of the dried residue was dissolved in 100 c c of tricresol sterile distilled water and filtered The amount which did not dissolve amounted to 0 07 gm., showing that 0 43 gm were in solution The nitrogen percentage was 1 13, and the protein 7 06

Rice—Rice powder (rice flour of Smith, Kline & French) was obtained, of this product 10 gm were rubbed up with

200 c c of alkalinized sodium chlorid plus tricresol After incubating and shaking and then filtering it twice, rice, 161 c.c plus 53 c c alcohol, one-third volume of absolute alcohol, were added Precipitation was slight The preparation was placed in an evaporating dish, the material was scraped off and 0.5 gm dissolved in 100 c c of tricresol distilled sterile water Practically all dissolved The percentage of nitrogen was 0.560, and that of protein 3.56

Barley—Ten gm of Robinson's prepared barley was ground up with 200 c.c of alkalinized sodium chlorid solution plus tricresol incubated, shaken and filtered The amount of filtrate was 158 c c and to this 52 c c. of absolute alcohol were added The solution was evaporated on a water bath and of the dried residue 0.5 gm was dissolved in 100 c.c of tricresol sterile distilled water Practically all went into solution The solution was culturally sterile The nitrogen percentage was 0.695 and the protein 4.34

Strawberries—Good firm strawberries were selected These were ground up and put in the incubator to dry out The dried material weighed 9 gm It was rubbed up with 200 c c of alkalinized solution plus tricresol It was incubated and shaken, then it was decided to add 200 c c of the alkalinized solution in order to thin the mixture It was filtered, and the filtrate amounted to 289 c c to this 100 c c of absolute alcohol were added The solution was evaporated on a water bath, and 0.5 gm of the dried residue was dissolved in 100 c c of tricresol sterile distilled water It did not go into solution, 0.06 gm remaining undissolved, leaving 0.44 gm dissolved in the 100 c c of solution Culturally it was sterile The percentage of nitrogen was 1.31, and of protein 8.2

Tomatoes—Tomatoes were cut into small slices and placed in a dish in the incubator to dry The material was then scraped from the dish The material collected weighed just about 10 gm It was rubbed up with 200 c c of tricresol alkalinized salt solution incubated shaken and filtered A second filtration was necessary The filtrate amounted to 140 c c, and to this 46 c c. of absolute alcohol were added The solution was placed on an evaporating dish on a water bath Great difficulty was experienced in drying this product, 0.5 gm was dissolved in 100 c c of tricresol sterile distilled water and the material went into solution at once Cultures were sterile

Cow-Casein—One gm of Hammerstein's cow-casein was mixed with 100 c c of alkalinized salt solution plus tricresol, placed in a sterile flask, incubated and shaken for two hours The solution was filtered, tested for albumin and found positive Cultures were negative

Egg White—Five-tenths gm of egg albumin was crushed and powdered in a sterile mortar and dissolved in 100 c c of normal salt containing 0.25 per cent tricresol The solution filtered very slowly Some of the egg did not go into solution, and it was found that 0.465 gm was dissolved The solution was culturally sterile

ANAPHYLACTIC REACTIONS

The most important factor in the study of anaphylactic reactions is the determination of what constitutes a positive reaction From our studies we conclude that unless a reaction remains for forty-eight hours, it cannot be called positive We must emphasize the fact that the element of time constitutes the most important factor in the determination of a positive reaction

We have seen reactions well marked, remain twenty-four hours and disappear completely after a lapse of another twenty-four hours These spurious reactions constitute probably a hypersusceptibility and are not due to the irritant effect of the solution injected This increased sensibility might have been inherited, as seems probable from certain animal experiments on anaphylaxis, or might result from disease or other factors Dr Kolmer and Dr Mosaghe have shown that patients recovering from scarlet fever will often show a spurious Schick reaction

Ten patients received 0.1 c c of the alkaline solution used in preparing food products, and in every instance the reactions were negative, nothing appearing after either twenty-four or forty-eight hours

We also injected 0.1 c c of our various food products in apparently healthy children to determine whether or not the substance used would give positive reaction Practically every patient injected reacted negatively A summary of our results follows

Egg—Seven children varying in ages from 33 days to 2 years were injected, and all reacted negatively, after both twenty-four and forty-eight hours Dose, 0.1 c c

Pork—Three children were injected, one 6 years old, one 5 years and the other 5 months, all reacted negatively Dose, 0.1 c c

Wheat—Four children from 6 years to 3 months were injected, all reacted negatively Dose, 0.1 c c

Cow-Casein—Three children, aged about 2 months, were injected with cow's milk All were breast fed Dose, 0.1 c c, all were negative except one, who showed a spurious reaction

Oatmeal—Three children were injected, all reacted negatively

Strawberries, beef, fish and oatmeal were all negative, except oatmeal, which showed one spurious reaction

Mutton, clam, lobster, tomato, rice and barley all proved negative From three to five children were injected for each substance employed The dose was 0.1 c c

We were forced to conclude from these results that, unless the substance injected was in some manner concerned with the pathologic condition from which the child was suffering, there would be a negative result, for instance, if we obtained a positive reaction in an eczema or other skin affection, we would conclude that the foodstuff employed was in some way concerned in the causation of the affection of the skin in question

Next to the element of time, we believe that infiltration or the presence of a papule is necessary for a positive reaction, and lastly erythema These latter two phenomena, however, must be seen forty-eight hours after injection, if they disappear after twenty-four hours we do not believe that it constitutes a positive test To recapitulate, therefore, a positive test means the presence of infiltration and erythema which persist forty-eight hours after injection, the degree of positiveness being judged by the size of the infiltration and redness In the course of our experiments we gave injections to fifteen patients suffering from eczema

CONCLUSIONS

1 As a result of our experiments we believe that the anaphylactic food reactions, when properly interpreted, are a valuable guide in determining the dietary factors operative in the production of diseases of the skin

2 Our experience would lead us to believe that the reactions are specific

3 In any case in which foodstuffs are suspected of being the cause of the pathologic conditions present, the cutaneous tests offer a ready means of confirming or negativing the suspicion

4 The tests constitute a basis for the scientific regulation of the diet in such cases

5 The tests must be carefully and conservatively interpreted in order that one be not deceived by pseudoreactions

6 A note of warning should be sounded to the effect that a positive reaction to a certain foodstuff does not

of necessity indicate that the morbid phenomena under consideration are due to this foodstuff Just as a syphilitic subject with a positive Wassermann reaction may develop a skin affection which is unrelated to his systemic infection, so a patient with a positive food anaphylactic reaction may develop a cutaneous affection due to other factors than his diet

7 Further studies in anaphylactic food reactions may shed considerable illumination on the etiology of certain diseases of the skin

8 Hundreds and perhaps thousands of patients must be studied before any general deductions can be drawn as to the relation between particular skin diseases and food poisoning

4037 Girard Avenue

THE RELATION OF MORPHIN TO POSTOPERATIVE COMPLICATIONS AND IMMUNITY*

BENJAMIN FRANKLIN DAVIS, Ph D, M D
Nicholas Senn Fellow in Surgery, Rush Medical College
CHICAGO

Because of their knowledge of the depressing influence of morphin on general metabolism, many surgeons have been inclined to blame its use for a long list of disorders appearing in the course of and following on operations, especially operations done under general anesthesia With the object of testing the reasonableness of this idea, a study was made of the records of 469 patients operated on in the Presbyterian Hospital and of the immunity curves (opsonic and lytic) of a series of morphinized animals Particular attention was directed to the possible relationship of morphin to postoperative shock, postoperative ileus (paralytic), postoperative acute dilatation of the stomach, postoperative retention of urine, and immunity

Physiologists have been unable to explain adequately the mechanism of shock[1] Among clinicians, surgical shock is usually defined as a condition of depression following painful injury or strong mental emotion, the symptoms varying from a slight feeling of weakness accompanied by nausea, and perhaps a temporary loss of consciousness, to complete paralysis of all the vital processes resulting in speedy death[2] According to this definition, and in conformity with the current theories of the cause of shock,[3] sensory stimulation, symbolized by the word "pain," appears to be the trigger which sets off the shock sequences The argument follows, therefore, admitting for the moment the correctness of the preceding assumption, that the question of the prevention of shock becomes a question of the interruption of the centripetal paths to the nerve centers, or a modification of those centers such that they are not irritated to a dangerous degree by the pain impulses Local anesthesia blocks the centripetal paths, and, when practicable, appears to be the best known preventive of shock in surgical operations General anesthesia depresses the nerve centers but appears to be somewhat less effective than local anesthesia in warding off shock, although it is often difficult to differentiate between the effects of the trauma of the operation and those of the anesthetic Morphin, owing to its power to reduce the poignancy of centripetal impulses, has been regarded as a valuable adjuvant to local anesthesia The committee on anesthesia[4] of the American Medical Association, reporting in 1912, recommended the routine administration of morphin preceding the induction of general anesthesia, recognizing at the same time that the imposition of one powerful depressant of the medullary centers, namely, morphin, on another, namely ether, might have disadvantages for which its antishock action could not compensate The following observations are presented for study in connection with the preceding statements

While the recognition of shock is based on the presence of a group of signs and symptoms no one of which in itself is diagnostic, there are several easily determined signs which, under certain conditions, may be assumed to be quite suggestive Of these, the pulse rate appears to be the only one which is observed as a part of the postoperative routine in the Presbyterian Hospital, and this sign, therefore, was chosen as the shock indicator for the present study The following arbitrary standard was adopted A pulse rate on return from the operating room of 100 or more per minute was assumed to indicate some degree of shock, a pulse rate of 99 or less was assumed to be negative for shock Cases were taken at random, the only condition being that they must not show evidences of shock preceding the operation Morphin, when administered, was given in conjunction with atropin Study of tables constructed in part according to this standard and in part showing the number of patients requiring active measures to combat postoperative shock suggests that morphin, in ordinary doses, may exert a slight influence against the induction of shock by operative procedures

The figures are as follows Of 89 patients undergoing radical amputations of the breast, 20 were given morphin one hour before operation, of these 11, or 55 per cent, were returned to bed with a pulse rate of 100 or more Sixty-nine patients did not receive morphin before operation, and of these 48 per cent were returned with a pulse rate of 100 or more Of the 20 morphinized patients, none required active measures to combat shock, while one out of 72 nonmorphinized patients did In 126 laparotomies, 25 patients were given preoperative morphin and 101 were not Of the morphinized patients, 68 per cent were returned to bed with a pulse rate of 100 or more, while but 50 per cent of the nonmorphinized patients exhibited a similar rate Of a total of 283 laparotomies, preoperative morphin was administered in 94 cases, 2 of these patients required active antishock treatment after operation Of the 189 laparotomies in which no preoperative morphin was given, 5 required active measures to combat shock after the operation The following operations were included among the laparotomies gastrostomy, 5 cases, anterior gastro-enterostomy, 8, posterior gastro-enterostomy, 24, exploratory (carcinoma of the stomach), 25, pylorectomy, 14, acute appendicitis, 8, cholecystostomy, 22, cholecystectomy, 7, pelvic operations with appendectomy, 114, miscellaneous intra-abdominal operations, 19, appendectomies (chronic), 21, chronic intestinal obstruction (carcinoma and adhesions), 2, colostomy (carcinoma), 6, intestinal resection, 8

---

* From the Departments of Surgery of Rush Medical College and of the Presbyterian Hospital

[1] Bevan, A D The Choice and Technic of the Anesthetic, The Journal A M A, Oct 23, 1915, p 1418

[2] Brewer Text Book of Surgery, 1909, p 106

[3] Henderson Proc Soc Exper Biol and Med 1909 1910 vii, 41 Crile Ibid, p 87

[4] Report of Committee on Anesthesia The Journal A M A June 15, 1912, p 1908

The evidence is conflicting, and the balance in favor of the conclusion drawn is very meager, so meager that possibly a Scotch verdict might be given with justice More weight has been attached to the figures showing the number of patients requiring active measures to combat shock than to those dealing with the pulse rate because it was felt that the addition of atropin to the morphin might have influenced the cardiac mechanism of the morphinized patients independent of shock, and because the former figures are absolute while the latter are based on a standard which is open to criticism

Because of its effectiveness in retarding gastro-intestinal peristalsis, morphin has been considered one of the contributing causes of postoperative constipation and gas pains Morphin produces constipation, first, by occasionally causing a spastic contraction of the pylorus, thus delaying the passage of food from the stomach into the duodenum as much as four or five hours [5] According to the observations of Dr B W Sippy,[6] nausea from any cause retards gastric peristalsis As morphin may cause nausea and vomiting in men and in dogs, this rather than pyloric spasm, may be responsible for the delayed emptying of the stomach noted above Secondly, morphin produces a considerable diminution in the rate and force of intestinal peristaltic waves Thirdly, some evidence has been presented which suggests that the threshold for the defecation reflex may be considerably raised, or the reflex may be abolished by morphin, so that feces tend to accumulate in the sigmoid and rectum [7] Morphin, then, definitely, decreases gastro-intestinal motor activity and, so far as that is true, may be of considerable importance in the production of gastro-intestinal paralysis It must not be forgotten, however, that there are other factors involved in the initiation of this condition Extensive handling of the bowel is of great importance Drying of the bowel by exposure to the air or the introduction of hot or cold water into the abdomen produce nothing more than a transient disturbance, but stripping the intestine between the fingers or operations on the bowel, particularly resections, inhibit peristalsis for several hours longer than etherization and laparotomy alone delay it [8] Paralysis of the bowel wall supervenes in the late stages of most cases of dynamic ileus associated frequently with important local vascular changes [9] The most extreme grade of acute intestinal paralysis, constituting the important factor in paralytic ileus, is found usually in association with severe local or generalized intraperitoneal suppuration Epinephrinemia to an extent insufficient to produce a minimal sustained rise in blood pressure brings intestinal peristalsis to a complete standstill and produces extreme intestinal dilatation [10] Pain or marked sensory disturbances or disturbances which induce fever are apt to cause epinephrinemia Morphin diminishes pain, and in full doses decreases the rate of the discharge of epinephrin into the blood [11] May it not be, therefore, that morphin is an enemy rather than an ally of the forces which induce postoperative intestinal atony?

Acute dilatation of the stomach is usually attributed to "a rapid dilatation of the stomach with increased secretion, later the pressure of the gastric tumor on the movable small intestines, forcing them downward, and producing thereby tension on the root of the mesentery, which in turn compresses the third portion of the duodenum against the spine and causes more or less occlusion Kinking of the duodenum from prolapse of the distended stomach may also be a factor of importance The primary dilatation of the stomach is probably caused by a muscular paresis from toxemia due to acute or chronic disease, or from surgical operation or shock The exciting cause may be an indiscretion in diet, or the ingestion of food or water too soon after operation, before the stomach wall has had time to regain its muscular tone" [12] The role played by morphin in relation to this condition may be a very minor one indeed, but its tendency to induce nausea and vomiting in certain individuals — nausea always retarding gastric motility[6]—and its demonstrated ability to delay gastric evacuation into the bowel, suggest that its use, postoperatively, may be associated with some danger The fact that acute dilatation of the stomach occurs under conditions similar to those under which intestinal atony develops justifies the application of the statements made concerning the latter to the gastric syndrone

In consideration of the conditions outlined in the foregoing discussion, tables were compiled in which an attempt was made to trace a relation between morphin administered and the incidence, time of onset, duration and severity of postoperative nausea and vomiting, tympanites and gas pains, and postoperative disturbances of the urinary apparatus due, when induced by morphin, to the abolition of the sphincter reflex [13]

The patients were taken at random, only those being excluded in whom preoperative symptoms were of such a nature as to suggest their continuance after operation, and possible confusion in consequence with the so-called postoperative symptoms on which observations were desired Patients who were given morphin (from one-sixth to one-fourth grain hypodermically) before operation received at the same injection atropin (from $\frac{1}{150}$ to $\frac{1}{120}$ grain), such injections were made not in selected cases but as a part of the routine of the operator Patients who were given morphin, from one-eighth to one-fourth grain, or heroin, from one-twelfth to one-sixth grain — the terms being used synonymously — postoperatively usually received the injection not as a matter of routine, but because their postoperative discomfort demanded relief The average number of such injections to each patient so treated was about 3 6 in the course of thirty-six hours Those who received no morphin postoperatively were patients who either suffered but little discomfort or at least made but little complaint It was not possible to make even a reasonably accurate record of patients who vomited before their return from the operating room and before waking from the anesthetic Patients who were recorded as being free from nausea and vomiting were those who did not develop these symptoms after regaining consciousness Those in whom nausea and vomiting were recorded as severe exhibited acutely dilated stomachs and required more or less strenuous gastric lavage for relief Among the so-called moderate cases were included all grades of nausea and vomiting from mild attacks of ten minutes' duration up to the borderland of the severe types The same general scheme was followed in classifying the gas pains The severe cases included all lasting without intermission for a number of hours and requiring vigorous measures for relief The moderate types include all from those sufficient to cause somewhat more than just a passing complaint up to the severe cases

---

[5] Zunz Bull de l Acad roy méd de Belgique 1909 xxiii 353
[6] Sippy B W Personal communication to the author
[7] Shapiro Arch f d ges. Physiol 1913 cli 65
[8] Cannon and Murphy Ann Surg 1906 xliii 515
[9] Davis B T Ann Surg 1915 lxi 261
[10] Hoskins and McClure Am Jour Physiol 1912 xxxi 59
[11] Hitchings Sloan and Austin Cleveland Med Jour 1913 xii 684
[12] Brewer Text Book of Surgery 1915 p 519
[13] Cushny Pharmacology and Therapeutics 1906 p 214

NAUSEA AND VOMITING

As is the case with other conditions studied, dogmatic assertions probably are not warranted but it seems to be reasonably evident that, with the possible exception of operations done under local anesthesia, postoperative nausea and vomiting is very little influenced by morphin administered in the manner and dosage already described, but is markedly and principally influenced by the depth and duration of the anesthetic (ether) The nature of the operation and the organs operated on are doubtless of importance in special instances, but are overshadowed by the importance of the ether In operations of this series requiring the deepest and most prolonged anesthesia that is laparotomies and amputations of the breast, only 48 per cent of the patients were free from nausea and vomiting, following the more shallow and less prolonged anesthesias for the miscellaneous extraperitoneal cases and herniotomies approximately 75 per cent were free from these symptoms Of herniotomies done under local anesthesia without the previous administration of morphin, 100 per cent of the patients were not nauseated and did not vomit When local anesthesia first came to be used extensively in the Presbyterian Hospital, it was uniformly preceded by an injection of scopolamin and morphin Patients so treated commonly suffered more or less from postoperative nausea and vomiting This being noted, the scopolamin was omitted Still these symptoms appeared postoperatively in about 20 per cent of the patients Then the preoperative morphin was discontinued, and from that time postoperative nausea and vomiting has been almost eliminated in operations under local anesthesia, excepting in thyroidectomies for hyperthyroidism, in which, of course, a special type of patient is encountered Even here, however, as experience leads to improvement in the technic of local anesthesia, the postoperative discomfort decreases With the elimination of the general anesthetic (ether), and improvement in the technic of local anesthesia, postoperative nausea and vomiting decreases to a minimum

TYMPANITES AND POSTOPERATIVE GAS PAINS

The importance of morphin in relation to the production of these symptoms in the present group of cases, taken as a whole, appears to be relatively insignificant The really important factors are, first, the tissues involved by the operation, and second, the general anesthetic Operations involving the peritoneum, whether done under a general or a local anesthetic, are followed by gas pains of varying grades of severity in approximately 45 per cent of the cases In operations in which a general anesthetic is employed, but in which the peritoneum is not traumatized, about 10 per cent of the patients have postoperative gas pains, while following operations in which both peritoneum and ether are avoided and local anesthesia is used, tympanites and gas pains do not appear

VOIDING OF URINE

Ether and injury to the peritoneum seem two great causes of postoperat utic morphin may play a part, but, at the most, an insignificant one

In 283 laparotomies 79 per cent of the patients were free from postoperative urinary disturbances, in ninety-two radical amputations of the breast, 87 per cent of the patients urinated spontaneously, of forty one patients undergoing extraperitoneal operations, nineteen being done with ether anesthesia, 100 per cent were free from urinary disturbances, in thirty six herniotomies under local anesthesia, 94 per cent of the patients urinated spontaneously, while but 77 per cent in seventeen cases under ether anesthesia were able so to do

IMMUNITY

An important question with regard to the use of morphin after operations is that of its influence on the ability of the body to withstand infection Lancelin[14] found that rabbits and guinea-pigs, when subjected to repeated injections of morphin, became considerably more susceptible to the attack of streptococci, staphylococci and "vibrion septique" than normal control animals The leukocytosis was about equal in all animals, but the activity of the leukocytes appeared to be distinctly retarded Diapedesis of leukocytes through vessel walls and their accumulation at points of local infection seemed to be much less prompt and of lesser degree in morphinized than in normal animals Death was due to an arrest of phagocytosis through the inhibition of the activity of the leukocytes by morphin Catacuzene[15] previously reported results which quite agree with those of Lancelin with reference to the retardation of leukocytic activity in morphinized animals reacting to infections According to Arkin,[16] morphin sulphate has a depressing action on phagocytosis of streptococci by human leukocytes up to 0 01 per cent and to a slight degree up to 0 001 per cent This action is largely on the leukocytes, for leukocytes treated with 0 1 per cent morphin sulphate gave a phagocytic index of 0 63 as compared with 1 0 for leukocytes treated only with salt solution That this depressing influence of morphin may be masked by the coincident action of drugs which accelerate phagocytosis has been suggested by the work of Smith,[17] who used a mixture of morphin hydrochlorid and quinin hydrochlorid in the proportion of one-eighth grain of the former to 10 grains of the latter It was calculated that a 10-grain dose given to a person weighing 140 pounds, if entirely absorbed, would represent in the blood a proportion of 1 7,500 The influence of this solution (1 7,500) on the phagocytosis of different kinds of pathogenic organisms (for example, streptococci, staphylococci, pneumococci, *Bacillus influenzae*, *B pseudodiphtheriae* and *B tuberculosis*) was contrasted with that of weaker and stronger solutions In the majority of experiments there was an increased phagocytosis, always most marked with the 10-grain dose Instead of inhibiting phagocytosis, the addition of quinin and morphin, in what may be considered the ideal dose, greatly increased it Smaller doses in all experiments were less effective Very large doses (from 30 to 40 grains of quinin and from three-eighths to one-half grain of morphin), instead of increasing, diminished phagocytosis, sometimes to the extent of 50 per cent

---

[14] Lancelin Morphinisme et infections, role des leucocytes Bordeaux Theses, 1902 1903, No 37

[15] Catacuzene Recherches sur le mode de destruction des vibrion cholerique nisme These de Paris 1894

[16] Ark Dis 1913 xiii 408

[17] Sr ndon 1910, ii, 1342

In view of the unanimous testimony of workers in the field of experimental medicine in confirmation of the theory that morphin diminishes the activity of the defensive forces of the body, affecting the leukocytes especially, it became of interest to determine whether morphin administered to animals in therapeutic doses would produce changes measurable by methods introduced since the work of Lancelin was finished. This appeared to be advisable because all of the later work seems to have been done in vitro, very little attention being paid to the effect of morphin on the opsonic or lytic curves in the serum of animals responding to immunizing injections of antigen.

OPSONINS AND LEUKOCYTIC ACTIVITY

To one partner of each of four pairs of dogs, a quantity of morphin sulphate corresponding to about one-sixteenth grain for 20 pounds of dog was administered subcutaneously daily. The morphin injection was occasionally followed within five minutes by emesis and defecation; for the ensuing two or three hours the animal remained somewhat torpid, but not markedly depressed, and thereafter acted in a normal manner until the succeeding injection was made. As the period of injection extended over a couple of months there was a gradual loss of weight and strength shared by all of the animals, a result of the rather close confinement to which they were subjected, but rather more marked in the morphinized than in the control dogs.

During the two weeks preceding the morphin injections, serum and washed leukocytes from each animal were tested (according to the Wright technic) against those of its partner, using a streptococcus as antigen according to the subjoined form:

Leukocytes (morphin dog) + serum (morphin dog) + bacteria.
Leukocytes (morphin dog) + serum (no morphin dog) + bacteria.
Leukocytes (no morphin dog) + serum (no morphin dog + bacteria.
Leukocytes (no morphin dog) + serum (morphin dog) + bacteria.

The morphin injections were then proceeded with and the tests continued twice a week for two weeks longer. Then a large immunizing dose of killed streptococci of the strain used from the first was administered, and tests continued twice weekly for the succeeding three weeks.

As a result of these experiments, no constant difference was noted between the activity and opsonizing power of the leukocytes and serums from the morphinized and the control animals.

HEMOLYSIS

Four rabbits, two of which were receiving one-sixteenth grain of morphin sulphate hypodermically per kilogram daily throughout the experiment, were immunized to chicken erythrocytes by intravenous and intraperitoneal injections. Dilutions of the immune serums were then made, and comparative observations taken of the dilution beyond which morphinized and nonmorphinized serums failed to produce hemolysis, using a chicken-rabbit-guinea-pig system. Then tests were repeated twice weekly for two weeks after the last injection of erythrocytes. At no time was there any suggestion that morphin exerted an influence on the hemolytic curve.

From these experiments it seems probable that morphin administered in doses which, judging from their depressing effect on the cerebral and bodily activity of the animals, were analogous to those given to the patients referred to in the preceding sections of this paper, does not retard the production of hemolysins and opsonins in response to the usual stimuli; it does not interfere with the activity of these bodies when they are produced; in the concentration in which morphin was present in the serums of these animals, it does not decrease leukocytic activity. As ordinarily used, therefore, morphin probably does not decrease the ability of the body to defend itself against infection.

SUMMARY

The combination of morphin (from one-eighth to one-sixth grain) and atropin (from $\frac{1}{160}$ to $\frac{1}{120}$ grain) hypodermically before operations is of very little importance so far as the prevention of postoperative shock is concerned, and, in the general run of cases, plays a negligible part in the production of postoperative nausea and vomiting, tympanites and paralytic ileus, and postoperative retention of urine. It has practically no effect on immunity. Morphin alone, preceding local anesthesia, adds nothing to the efficiency of the anesthetic, and causes postoperative nausea and vomiting in 25 per cent. of the patients; it makes the patient "dopey" and hence deprives the operator of the cooperation of the patient, which at times may be valuable.[1] In view of these conditions and in view of the disadvantages of imposing one powerful depressant of the medullary centers, namely, morphin, on another, namely, ether, the preoperative use of morphin should be abandoned. In view of the same conditions, morphin in therapeutic doses, that is, from one-eighth to one-sixteenth grain, to an adult of average size, repeated at intervals of not less than six hours, should not be denied to patients whose postoperative suffering cannot be controlled otherwise.

THE STATUS OF THE CHILD IN OBSTETRIC PRACTICE

JOSEPH S. WALL, M.D.
WASHINGTON, D. C.

The thoughts expressed herein have been of gradual growth, mainly gained by the experience of standing sponsor for the welfare of the maternal offspring after the obstetrician has completed his task and by every good word and deed has brought to a successful ending a period of great anxiety.

Some time ago, in a discussion, I had occasion to remark on the number of children whose health had been impaired by birth injuries, and was immediately taken to task by one of our accomplished obstetricians, just as though I had accused my obstetrical confreres of acts of assault and battery on the babies they were assisting into the world. My intent, far from this, had been simply to ascribe to injuries of the cranial contents during the act of labor those distressing afflictions appearing later in infant life, namely, idiocy, paraplegias, hemiplegias, and the like, which are now known to be due to intracranial traumatism at birth.

It cannot be charged against us as it was in the earlier days of medicine that the interests of the child are entirely subservient to those of the mother. The abandonment of craniotomy on the living child was in itself an acknowledgment of infantile rights, which, thanks to modern advancement in medical science, have attained a station hitherto unknown, so that now the mortality to the child is mentioned in the same breath with that to the mother in almost all obstetric conditions and procedures involving a question of mortality

I am of a mind that there is still room for improvement in judging the rights of the unborn child, and certainly enormous opportunities for advancement in the consideration and attention bestowed on the little individual after birth

There are certain prenatal, natal, and postnatal facts which may furnish food for reflection

As a general theme I would ask that the product of conception be given a greater measure of consideration in all matters obstetric when the safety or life of mother and child are considered coincidentally, and when balancing one s procedures to be enforced to effect the desideratum for the mother, all things being equal (or nearly so) as in high forceps or cesarean section, to weigh gravely one responsibility to the child, rather than to lose sight of it entirely in the greater vision of the safety of the mother

"PERNICIOUS" VOMITING OF PREGNANCY

In prenatal matters perhaps the first to call into question the sacrifice of the offspring is the vomiting of pregnancy The indication for induced abortion is in most instances determined entirely by the alarming condition of the mother, and yet how many of us have seen cases of pernicious vomiting belie their name except in the extent and distress of their symptoms the term "pernicious" in medicine usually means fatal, for example, pernicious malaria, pernicious anemia, etc My only observation would be for a readjustment of the medical and obstetric idea of pernicious, for I remember in past years having seen quite a few patients with so-called pernicious vomiting get well without the induction of abortion

VIABILITY

Another obstetric word needing readjustment, or the readjustment of the obstetrical mind, is "viability" Whoever outraged nature in the past by thrusting into our medical dictionary this elastic and meaningless term, was neither a naturalist nor an obstetrician

What is meant by "viability?" Along about the seventh month, as commonly accepted, it is believed that the fetus has sufficiently developed to bear separation from the maternal connection which has maintained its life up to that period In an older and fortunately obsolete interpretation, it was construed as the period before which the child theoretically had no moral or material station, and after which its rights were to be respected pari passu with the conscience possessed by the physician It would be well either to relegate the term viability to oblivion, or to fix its occurrence at one of two periods in fetal growth — either at the moment of fecundation of the female ovum, or at a point 280 days from that time, coincident with the termination of the second stage of labor Such a conception of viability, especially the latter, would render unto the world a lessened number of prematures, and if constantly borne in mind, even in cases of urgency from the maternal standpoint, would enhance the child's safety by postponing, as long as justifiable, measures involving accouchment force

Those of us who have had anything to do with the care of prematures would ask of obstetricians that the period of prematurity be made as short as possible, if it is within their hands so to shorten it

The induction of premature labor to avoid a threatened eclampsia is a well-recognized and thoroughly-admitted procedure If, however, obstetric genius by well-directed treatment can postpone the necessity for such a procedure until the latest period of pregnancy consistent with the safety of the mother, the pediatrists will be duly grateful

It is a fact that incubators are passé, except at county fairs and sideshows It is a fact that practically all prematures entrusted to institution care die It is a fact that in the city of Washington the deaths from prematurity reach 31 54 per thousand births, exceeding every other cause of death during the first year of life, and being 50 per cent greater than the group of deaths from diarrheal diseases in the same period In Holt's[1] analysis of ten thousand births at the Sloane Maternity, over 54 per cent of deaths in the first two weeks of life were from prematurity

SYPHILIS

Many women have a history of having had one or several stillbirths The occurrence of one stillborn child in the obstetric history of a mother should excite suspicion and should warrant every effort, especially by Wassermann tests, to ascertain the presence of syphilis in either parent

In an analysis by Williams[2] of 705 fatal deaths occurring in 10 000 births, 186, or 26 4 per cent, were due to syphilis a preventable cause of infant death This study was based on all deaths occurring between the seventh month, "the so-called period of viability," and full term, as well as those in the two weeks following delivery Eighteen per cent of Williams' patients died from unknown causes, but because one-half of these were macerated when born, he believes that probably 40 per cent of the unknown group were deaths due to syphilis

In Washington during 1914, 1,140 babies passed under the observation of the infant welfare stations of the Washington Diet Kitchen Association In all there were eleven deaths, counting among those who died every baby who had ever visited a station a second time Three of the deaths were from congenital syphilis One died of "probable congenital syphilis" Thus it appears that four, or nearly 40 per cent, of all of these deaths, were from certain or probable syphilis

Herein lies an opportunity for the obstetrician to work untold good by the recognition and certain diagnosis of syphilis, in order that the offspring of syphilitic parents may be born healthy, because of suitable and effective treatment of their forbears

PRENATAL CARE OF BREASTS

When one recognizes the vast importance of maternal nursing, and when one witnesses, especially in primiparas, the difficulties and abandonment of nursing because of underdeveloped, inverted, fissured and painful nipples, the pediatrist would certainly suggest greater prenatal care of the breasts and so a reduction of the number of babies who must be robbed of their rightful inheritance of maternal nourishment because of the factors mentioned

Not only is prenatal thought and encouragement and constant suggestion necessary to convince many mod ern mothers of the importance of nursing their offspring, but in the far more important fortnight of postnatal care which period is almost always solely under the obstetrician's guidance, a greater effort should be put forth by moral suasion as well as by material means to insure breast feeding and not artificial nourishment of the child Of this I will speak later

---

[1] Holt L E and Babbitt E C Institutional Mortality of the New Born A Report of Ten Thousand Births at the Sloane Hosp for Women, New York, The Journal A M A, Jan 23 1915 p

[2] Williams J W The Limitations and Possibilities of Prenat Care Based on the Study of 705 Fetal Deaths Occurring in 10 000 secutive Admissions to the Obstetrical Department of The Johns kins Hospital, The Journal A M A, Jan 9, 1915, p 95

MOTHER'S DIET

Again during the prenatal period, if there is cause to believe that the child will be unusually large, or if some degree of pelvic contracture exists, or if there has been a history of dystocia in previous births due to the great size of the child, it is a principle advanced by some that the amount and character of the mother's diet during pregnancy may be so regulated as to exert a beneficial restraining effect on the growth of the child How serviceable such agencies may be I am unable to say, but there may exist here an opportunity for prenatal care which might enhance not only the safety of the mother, but especially of the child

I have repeatedly heard it stated that the average colored baby rarely reaches 7 pounds in weight at term, and may not this deviation from the normal average of the weight of the new-born be due to natural restrictions in diet through want and necessity? Could the same factors of subnutrition inherent in this race be invoked artificially to restrain excessive fetal growth if the obstetrician is fearful of some disparagement between the pelvic and fetal measurement?

BIRTH INJURIES AND PALSIES

The conditions presented during the actual time of delivery are of necessity those wherein the obstetric art has the greatest sway Prenatal and postnatal epochs are further removed from the direct supervision of the obstetrician, the former largely because of the belief of many women that a physician's care is not paramount previous to labor, the latter because only too quickly the infant passes under the almost exclusive domination of the nurse and not infrequently becomes the object of casual inquiry on the part of the medical attendant

It is during delivery that results are looked for by the mother, and in so far as the accoucheur is concerned in producing the desired results, he employs various procedures of recognized obstetric practice to effect the accomplishment of delivery, when such are necessary

The first serious condition from the standpoint of the child is prolonged and tedious delivery That the largest number of hopeless cerebral palsies, for example, the terrible affliction of Little's disease, is produced by prolonged pressure on the fetal head I think is an unquestioned fact

Kerley,[3] a man of broad pediatric experience, states that

> Trauma at birth whether due to use of forceps or to compression of the head in a prolonged or abnormal delivery may result in meningeal hemorrhages causing cerebral palsy An immense number of cases are thus caused The obstetrician should always keep in mind that with him rests the possibility of making a hopeless invalid or an idiot of the child he is about to deliver It is fully appreciated that under unusual conditions in obstetric practice certain risks of head injury must be taken for the sake of the immediate demands of the mother or the child, but the large number of cases of cerebral palsy and idiocy which I have seen have impressed on me the necessity of treating the child's head during delivery with the utmost care

When one sees, as I have frequently seen, a hopeless, helpless little creature, who at 2 or 3 years of age cannot hold its head up unsupported, whose spine is bowed, who at 5 or 6 years must be supported to walk on its atrophied, spastic and crossed extremities, whose mind is a blank and its future equally so, one is constrained to reflect on the importance of a warning note

FORCEPS, VERSION AND CESAREAN SECTION

The boon of forceps must be tempered with the thought as to the utility of "high forceps operations," into a discussion of which I am not qualified to enter I believe, from a limited obstetrical reading and hearing of discussion, that the old high forceps application is nearing its well-deserved death From the baby's standpoint an illustrative case might prove an object lesson

A girl baby of 4 weeks was recently referred to me for supervision This child had been delivered by cesarean section as a method of choice, weighed 7 pounds 9 ounces at birth, was perfect in every respect, and has since progressed lustily on breast feeding

The mother of this child, whose birth weight I do not recall, weighed 25 pounds at 3 months of age Four years ago her first-born, a baby weighing 11 pounds at birth and 19 pounds at 6 months, was delivered by high forceps after a tedious labor He now has a terrible scar on the right forehead involving the bone as well as the soft structures, a depression of the orbital arch, strabismus, and total blindness in the right eye The election of abdominal cesarean section was made from the standpoint of the child, who in after years will no doubt be grateful to the obstetrician, as is the mother at present

The advent into this world of a martial figure now large in the public eye was complicated by the failure of delivery of a note to the skilled accoucheur selected to attend the queen mother, so that the post of obstetrician fell to the lot of an obscure physician who has borne, perhaps unjustly, the stain of creating an Erb's palsy in the arm of his royal charge

There are many Erb's palsies less widely heralded, but none the less real and crippling, which have been due to haste and lack of skill in effecting delivery, and where the status of the child has received scant notice, in the mental and manual efforts of the obstetrician

The indications for cesarean section, abdominal or vaginal, when weighed in the balance of obstetric judgment, should take into account fully the status of the child as well as that of the mother in determining the proper procedures It is gratifying to note a general tendency toward the employment of cesarean section as a method of election in doubtful cases, no doubt because the obstetric mind has become convinced that this operation is highly desirable, as it is accompanied with practically no fetal mortality

If the status of the child be given its proper weight, there would be fewer versions and more sections in late placenta praevias I well remember a distressing case of puerperal mania due to great loss of blood, and mostly I believe, to the mental anguish of loss of the first-born, in a patient with placenta praevia delivered at term by high forceps

---

[3] Kerley C G The Practice of Pediatrics W B Saunders Co Philadelphia 1914 p 495

The employment of version to effect delivery is well known to increase the dangers to the offspring, yet until recent years this was the recognized procedure in cases of placenta praevia

When one considers the danger of trauma, of asphyxia both from intra-uterine bleeding and from cord compression, the status of the child is relegated to the background in this method of accouchement force

TWILIGHT SLEEP

There is another obstetric procedure now being widely discussed by women as well as by physicians, namely, "twilight sleep," which is yet in an experimental stage, but which should receive the earnest thought of all who practice obstetrics The amount of attention which this subject has received from the feminine standpoint is bound sooner or later to elicit from the profession some definite stand for or against, and it would seem but fair that every endeavor should be made by obstetricians to pass judgment on this procedure by scientific inquiry, conducted under the most stringent conditions as to technic, which its supporters deem so necessary It is only by such exhaustive investigation that the real worth or harmfulness of this measure can be determined, nor should it be left to the investigation and exploitation of those who are unfitted to determine its place among obstetric procedures

In determining the usefulness of "twilight sleep," it would seem that the sine qua non of its employment rests with the ultimate effects, harmful or innocent, of the drugs on the child

There is every reason to believe that the fetus is profoundly affected by the remedies employed to produce the necessary state of seminarcosis It is believed by some who have used this method that these effects are transient and devoid of lasting influence

In a report by Gauss[4] of his first 500 babies, 316, or 63 per cent, were lively, that is, normal, at birth Four were born prematurely and died within a short time One hundred nineteen, or 24 per cent, showed the condition known as oligopnea

Dr Jacobi holds to the belief that every moment of asphyxia in the new-born is fraught with the utmost danger as concerns its subsequent cerebral development It is possible that later years will testify to the truth or falsity of this belief as applied to the peculiar asphyxia found in "twilight sleep" babies

Gauss further says

> I do not believe that this intoxicated condition harbors any serious dangers to the organisms I have, nevertheless, taken occasion to avoid it experimentally by modifying the dosage On the strength of my observations I thought that the intoxicating effect was due to the morphin, and I tried therefore to lessen the amount given or even avoid it altogether whilst maintaining or eventually increasing the dose of scopolamin If the quantity of scopolamin was increased beyond a certain limit, eventually even omitting morphin entirely, slight intoxicating effects were observed in the child, which were the more pronounced, the dimmer the state of consciousness of its mother If the first injections were heavily overdosed, the intoxicating effect on the child took place sooner than in its mother, while the latter still retained unclouded consciousness, the former was eventually born in a state of apnea Morphin by itself sometimes causes deep apnea in the child at birth

In a later report of 3,000 cases, Gauss claims that the oligopnea is devoid of danger if not caused by large doses of morphin, to which the infant is extremely susceptible His fetal mortality in this series was 1 3

Brodhead[5] reports 46 cases at the Harlem Hospital in which 31 babies cried immediately after birth, 14 cried after some manipulation, several babies required hot and cold baths, artificial respiration, etc, and one child died thirty-six hours after birth, the necropsy showing venous engorgement of the brain and all the viscera At the Post Graduate Hospital he reports 20 cases, two in the series had stillborn babies, one baby died thirty-six hours after birth This child was in deep narcosis at birth and it required one hour and a quarter to make it breathe

Such instances as cited will serve to call attention to the possible harmful effects on the child of this method of analgesia, but only the collection of a much larger series of carefully studied cases can determine the final judgment of its utility The last analysis will obviously consider the status of the child alone as determining the recognition, if any, which will be ultimately accorded it

POSTNATAL CARE OF INFANT

Granting that the skill and wisdom of the obstetrician have combated the dangers and avoided the accidents to the child during its prenatal and natal period, and that it has entered the world a healthy, lusty being, there are more postnatal pitfalls in store for this tender person, offspring, perhaps he should be called, for he has now undertaken a separate existence

During the period of his parasitic life, one may call it, the altered conditions in the mother incident to his presence and growth have been the object of solicitude on the part of the obstetrician The vomiting of pregnancy has been watched lest it become "pernicious", the urine repeatedly examined, lest his presence be no longer tolerated because of possible eclampsia, in his very passage through the parturient canal his tender head may have been forcibly assisted by compressing forceps, or if not, it has been crowded up against the pubes, lest the perineum of the mother might suffer

His process of exfoliation is complete with the severance of the cord and he is handed into the arms of the waiting nurse, who from that instant becomes his mentor, guide, and friend Too often, I believe, this ritual between obstetrician and nurse betokens the presentation of an object from one to the other which is regarded largely in the light of a white elephant by the former

Altogether too often the obstetrician's attention, so far as the child is concerned, ceases from the moment of its birth To the nurse is entrusted the instillation of antiseptics into the eyes Those who have properly performed this operation on the new-born know the difficulties sometimes met with in actually opening the lids to reach the conjunctival sac Too often someone has blundered, and no preventive treatment directed toward ophthalmia has been instituted Bear witness the patients admitted to our hospital wards with this serious malady

Among the most fatal of all diseases of the new-born is to be found the group of septic infections Many of these infections gain entrance through the umbilicus, and yet the toilet of this absorptive structure is almost always left to the nurse, no matter how competent or incompetent she may be to enforce the principles of strictest asepsis.

---

[4] Gauss Arch f Gynak, 906, lxxviii, Part 3

[5] Brodhead Post Graduate, February, 1915, p 87

The avoidance of infection of foci other than the umbilicus may *sometimes* fall within the preventive care of the obstetrician. A few months since I was called to see, with another physician, a baby who had erysipelas, the disease subsequently proving fatal. The infection had gained entrance through an ear puncture made within the first few days of life to insure proper apertures for earrings when the child had attained sufficient size to embrace these features of barbaric adornment.

One might question the inclusion of such a matter within the scope of preventive measures on the part of the physician, but one might be answered by the fact that, in the case in point, the physician himself had made the ear punctures!

The obstetrician who practices strict asepsis, who wears snowy gowns and sterile gloves, who would stand aghast should the nurse dare to touch the maternal parts, by common practice neglects to extend to the infant in the toilet of its tender, susceptible body those features of modern asepsis which he would not fail to apply to the mother because of the danger of puerperal sepsis.

FEEDING

My last plea on behalf of the new-born is in regard to feeding. The knowledge that according to estimate, the artificially-fed baby stands from one-tenth to one-sixth less chance in early life than the nursling, should influence the obstetrician to use every means within his command, by moral suasion, by psychic appeal, by material treatment of the mother, to secure breast feeding for her offspring. This desideratum cannot always be attained, but the ability to secure it — granted that it is possible — rests almost alone with the obstetric attendant, to whom, for the first three or four weeks after delivery, the mother looks for guidance for her baby as well as for herself.

With the failure of the only nourishment ever intended for the human offspring, and never imitated in its entirety by the formulas of man, the question of putting the baby on the bottle arises.

Should this be necessary, it is a matter of supreme importance that all imitations of mothers' milk should be fabricated by the mind of the physician and not by the nurse. I recently had occasion to see a three-weeks-old baby who was receiving, as prescribed by the nurse, several ounces of rich top milk diluted with water, but further enriched by four ounces, namely a quarter of a pound, of sugar, the whole with rather disastrous results.

Medical nomenclature has coined the term "feeding cases," which include a great proportion of all illnesses and conditions met with during the first year of life. The adjustment of such now comprises a good part of pediatric practice and the evolution of a feeding case frequently begins within the first month of life.

Wile[6] has stated that 90 per cent of physicians graduating are deficient in pediatric training. As an "apologia" to my obstetric confreres, for any criticism heretofore expressed, I would venture to assert that a large number of these 90 per cent of physicians were deficient in their ability to properly direct infant feeding because of the incomprehensible teachings of pediatrists in former years, because of the unintelligible array of figures and algebraic formulas heretofore presented whereby infants were fed $x + y$ and sometimes z, by the disease-producing fad of top-milk feeding and cream mixtures in an attempt to imitate the fat percentage in mothers' milk, and finally, because the makers of proprietary foods were far-seeing enough to place on their labels directions for simple dilution of milk which needed but the average comprehension of a mother, and not the mind of a statistician, to properly observe.

It is a stain on the past years of pediatrists that fat curds were so long regarded as protein curds, and that algebra, a science mastered in school years, was a process of educational gymnastics and not a method of administering nourishment to unoffending infants.

Be it said to the glory of the pediatric art that a time of awakening has come, that in artificial feeding, simple dilutions of cows' milk under simple and rational restrictions as to quantity will give the greatest service in the majority of cases.

These are the methods of feeding which the average practitioner can understand, so that the mental chaos created by fats, proteins, sugars, calories, topmilk, bottommilk, and whey, with which he was formerly befogged, and because of which so frequently the aid of the nurse or food manufacturer was invoked — has been dissipated by simple, intelligible methods.

Reuben[7] says, in a study of 1,500 milk-station infants:

> In all our bottle babies we used simple dilutions of whole milk. . . . In feeding the healthy artificially-fed infants we usually began with a one-in-three mixture. Seldom was it necessary to prescribe a more dilute mixture. The quantity at each feeding we increased one ounce every fourth week; the strength was increased as the weight and the symptoms indicated.

Grulee[8] feeds 1½ ounces per pound weight in twenty-four hours, diluted out to make the proper amount at each feeding.

This is not a paper on infant feeding, but the foregoing statements of exceedingly simple methods which succeed in the majority of cases are made to direct attention to the possibilities within the grasp of the obstetrician to initiate proper and harmless substitute feeding methods when necessary, in place of complicated, harmful combinations, and to plead that the physician himself dictate the beginnings of the infant's nutritional regimen, not relegating the foundation of what may mean health or disease to the hands of the nurse or the manufacturer of patent foods.

There is now being erected in Washington a modern ideal hospital costing some hundreds of thousands of dollars, to be called a "lying-in hospital" — a place to which women may go to be surrounded by every detail of safety during the birth of their babies, and presumably an institution for enhancing the safety of the child as well as the mother.

On its staff are the names of skilful obstetricians and gynecologists, and yet, in this theater of beneficent activity, there is a Hamlet left out — there is no pediatrist to assure to the new-born its just measure of scientific protection during a period of its early life so fraught with danger.

2017 Columbia Road.

---

[6] Wile: Tr. Am. Assn. for Study and Prev. of Inf. Mort., 1900, p. 218.

[7] Reuben: Arch. Pediat., March, 1914.

[8] Grulee, C. G.: Infant Feeding, W. B. Saunders Co., Philadelphia, 191, p. 137.

DRAINAGE OF CEREBROSPINAL FLUID AS A FACTOR IN THE TREATMENT OF NERVOUS SYPHILIS *

SHERMAN F GILPIN, M D
Associate in Neurology, Jefferson Medical College, Chief Clinical Assistant, Outpatient Nervous Clinic, Jefferson Medical College Hospital, Assistant Visiting Neurologist, Philadelphia General Hospital

AND

THOMAS B EARLEY, M D
Serologist, Outpatient Nervous Clinic, Jefferson Medical College Hospital

PHILADELPHIA

The discovery of the spirochete in the nerve tissue itself was of great value in confirming the opinion already held that paresis and tabes were due to syphilis The discovery of salvarsan added an important remedy to the therapeutics of syphilis Notwithstanding these two great advances, tabes and paresis remain incurable The discovery by Swift and Ellis of a method whereby the remedies could be applied directly to the nervous tissue by way of the cerebrospinal fluid was hoped to be the solution of the problem

At the session of the American Medical Association in 1914, in the Section on Nervous and Mental Diseases, some glowing reports were read on the results of the treatment of paresis by the serosalvarsan intraspinal method, but at the close of the discussion one was impressed with the fact that many men of experience were convinced that the treatment had little effect on paresis

The question naturally arises why, if either arsenic or mercury are present in the blood and produce good results in all other forms of syphilis, no such results are obtained in syphilis of the nerve tissue The answer is given that after the administration of either drug by way of the mouth, skin or blood vessels, neither drug was to be found in the cerebrospinal fluid Why? Is it because the choroid plexus will not allow substances such as arsenic and mercury to pass, or is it because, if they do pass into the cerebrospinal fluid, it must be by osmosis, and this does not take place because the pressure of the cerebrospinal fluid equals the pressure of the blood in the venous sinuses and capillaries?

If the latter is the case why not saturate the patient's blood with either salvarsan or mercury, and at intervals drain off the cerebrospinal fluid by lumbar puncture, lower the pressure in the cerebrospinal sac, and thus cause the drugs to osmose through the capillaries?

While on service at the Philadelphia Hospital in July, 1914, we tried to work on this idea, but as we were on duty for only one month, there was insufficient time to accomplish anything

One year ago we asked Dr F X Dercum why cases of paresis and tabes could not be benefited by drainage of the cerebrospinal fluid, and he immediately suggested that the subject be investigated Because of his cooperation and interest in the work, and his kindness in placing at our disposal the material of the Jefferson nervous clinic, we are able to make a preliminary report on our work and present reports of three patients who have been treated according to this method

Dr Earley has made the laboratory studies and has overseen the drainage of the cerebrospinal fluid

In the investigation of this subject one is handicapped by a lack of knowledge of the origin and function of the cerebrospinal fluid Gray states it to be a clear, limpid fluid having a saltish taste, slightly alkaline reaction, 98½ parts water and 1½ parts solid matter, animal and saline Its chief use is probably to protect mechanically the nerve centers and prevent effects of concussion from without Morris states that the cerebrospinal fluid fills the subdural, subarachnoid space, and cavities of the brain and cord It is a clear, transparent liquid of a faint yellow color and a specific gravity of from 1 007 to 1 015 The origin of the fluid is not known, but it is believed that it exudes into the ventricles from the choroid plexuses, and from the blood vessels of the spinal cord and brain into their perivascular lymph spaces which open into the arachnoid space, and possibly the fluid which lies in the subdural space passes into it from the lymphatic channels in the dura mater

McIntosh and Fildes believe that the subarachnoid space is a closed cavity, filled with a relatively stagnant cerebrospinal fluid which acts simply as a water cushion to the spinal cord and brain, that it serves no lymphatic function and is shut off from the lymphatics of the brain, cord and roots by the endothelium covering the walls of its containing space They state that the origin of the fluid is unknown but that it is probably a secretion of the endothelium lining the subarachnoid space

Frazier and Peet believe it can be demonstrated almost without question that the cerebrospinal fluid is almost if not entirely secreted within the ventricles and that absorption does not take place until the fluid has escaped from the ventricles They found that the cerebrospinal pressure varies with the pressure of the blood in the venous sinuses and is practically identical with it

Weed states that around the cerebral vessels are spaces which extend to the capillaries and communicate with the subarachnoid spaces, and that if the direction of the flow of fluid in these perivascular spaces could be determined, light would be thrown on another possible source of cerebrospinal fluid Then by injection, under varying pressures, into the subarachnoid space, he demonstrated that by making sufficient pressure he could recover stain granules even in the lumen of the capillaries These results point, it would seem, to a flow from the capillaries into the perineuronal and perivascular spaces and thence into the subarachnoid space, where the fluid mixes with that from the ventricles These results point clearly to a dual source of the cerebrospinal fluid, namely, the choroid plexus and the cerebral capillaries

The intraspinal serosalvarsan treatment gives brilliant results in tabes, at least as far as checking the progress of the disease is concerned, but how many careful observers see any such results in paresis? The brain is accessible to drugs such as alcohol, morphin and caffein when introduced into the blood, and alcohol has been found in the cerebrospinal fluid in delirium tremens

Why is the brain not affected by arsenic or mercury given in the same manner? Why does the cerebrospinal fluid remain free from arsenic, as shown by a number of investigators? It would seem that the same mechanism which prevents the entrance of serum albumin, sugar, urea, ammonia, etc, which normally exist in the blood but do not enter the cerebrospinal

---

* Read before the Philadelphia Neurological Society, Oct 22, 1915

fluid, appears also to prevent the entrance of arsenic and mercury into the cerebrospinal fluid

Is it not reasonable, then to think that if we reduce the pressure within the cerebrospinal cavity we may succeed in bringing foreign substances through the capillary walls and thus secure the direct effect of drugs such as arsenic and mercury on the nerve tissue itself?

In carrying out the treatment we have tried to drain our patients once a week We drain off as much cerebrospinal fluid as will flow from 20 c c as high as 40 We place the patient on the side in bed The needle used is sterilized with dry heat The needle is inserted at the second or third lumbar interspace The first 5 c c of fluid are used for testing In the cell count the Fuchs-Rosenthal counting chamber is used Cells are stained with methyl violet, 0 1, glacial acetic acid, 2, and distilled water, 50 parts The specimen for the lymphocyte count is fixed at the bedside Nonne and Noguchi tests are used for globulin If red cells are found, the specimen is thrown out and a new specimen secured the following day The gold-chlorid test is not considered of sufficient importance to be used, as the Nonne and Noguchi tests are sufficient for all practical purposes

In the Wassermann test for the blood and fluid, alcoholic extract of syphilitic liver is used for the antigen, 0 1 c c of serum and 0 2 c c of spinal fluid are used We have had no bad results in draining our patients except a slight headache in one patient, and we have drained him several times since with no untoward results

Case 1—Man, aged 35, white married who has no children and whose wife has never been pregnant was admitted to the clinic Feb 25, 1914 There was a history of chancre nine years ago He was treated for two years At present he complains of tremor in legs and body noticed at night after a hard day's work Pain in legs has been intermittent in character for the past seven months He has twitching in the arms, and headache at times especially on the right side There is no history of gastric, bowel or bladder disturbance He feels tired, and is unable to work as well as formerly His memory is not so good as before the onset of the illness He does not worry He believes he is treated justly, and has a general air of well-being He has worked at the same place for the past seven years

LABORATORY EXAMINATIONS CASE 1

Date	Blood	Cells	Globulin	Spinal Fluid
11 17 14	Positive plus 3	16	Positive	Negative
12 10 14	Positive plus 3	21	Positive	Negative
12 29 14	Positive		Positive	Negative
3 16-15	Positive plus 1	14		
4 1 15	Negative	12	Positive	Negative
5 19 15	Negative	12	Positive	Negative
10-21 15	Negative	8	Positive	Negative

Examination shows a fine tremor of the tongue There is no ataxia of gait or station The pupils are unequal, the left dilated, with slight reaction to light The right pupil does not react to light, and both react to accommodation The knee jerks are equal and normal, and no Babinski is present The memory is found deficient on examination The blood Wassermann Feb 27, 1914, was plus 3 The patient was put on mercury by inunction and was considered to have a case of early paresis On account of his bearing and air of great importance we hesitated about taking him into the ward for a serosalvarsan treatment and in November 1914, decided to use drainage of the cerebrospinal fluid in addition to mercury by inunction He was drained once every two or three weeks

The patient at present is holding a position requiring mental exactness, and his mental condition appears to be normal His pupils show no change since beginning treatment

Case 2—O L, man, aged 52, white, bookkeeper, was admitted to the clinic, March 22, 1915, complaining of loss of memory and dizziness He gave a history of chancre thirty-one years ago He is married and has two children, and his wife had one miscarriage

The present trouble began one year ago He noticed paralysis of an eye muscle which cleared up in a month under treatment Last summer he noticed that he was losing his memory when attempting to add a column of figures, and he felt nervous, irritable and easily tired At times he had incontinence of urine during the night He feels tired in the legs and notices on walking that the legs become weak He has difficulty in walking, which he calls dizziness

LABORATORY EXAMINATIONS, CASE 2

Date	Blood	Cells	Globulin	Spinal Fluid
3 30 15	Positive plus 4	152	Positive	Positive 0 2 c c
4 23 15	Positive plus 4		Positive	Positive 0 2 c c
5 22 15		106	Positive	Positive, 0 2 c c
7 9 15		96	Positive	Positive, 0 2 c c
7 27 15		72	Positive	Positive 0 2 c c
9 8 15	Negative		Positive	Positive, 0 2 c c
10 21 15	Weakly positive	36	Positive	Positive, 0 2 c c

On examination the gait and station are ataxic, knee and Achilles are absent and the pupils are contracted and do not react to light but do to accommodation The memory is found deficient Patient is greatly depressed, and worries over his condition

The patient was given serosalvarsan intraspinally after salvarsan intravenously April 1 and 23 May 22 and June 4 Clinically, he showed no improvement, though his cell count dropped His bladder control was not improved, his gait was unchanged, and his mental depression and memory defect were as marked as on admission He was then put on mercury by inunction during June and July, with drainage of the cerebrospinal fluid once weekly By August he went back to work at bookkeeping walked better, felt better and had lost his mental depression He is still at work, though his last examination shows he needs more treatment We believe that he has taboparesis

Case 3—S M, man, aged 43 white, was admitted to the clinic May 12, 1915 His chief complaint was stiffness of the knees with pain He has three healthy children, and his wife has had no miscarriages He was married at 20 and denies all knowledge of chancre He admits the frequent smoking of other men's pipes

On admission he makes the statement that the present trouble began with pain and stiffness of the knees four years ago He has had shooting pains in the legs, and has been unable to walk well during the past year He has had difficulty in starting the stream of urine for the past six months He states that he is unable to go up or down-stairs without holding on the stair rail He suffers from severe lightning pains His appetite is poor He has lost 25 pounds' weight His gait and station are ataxic, the pupils exhibit the Argyll Robertson phenomenon Knee jerks are absent

LABORATORY EXAMINATIONS CASE 3

Date	Blood	Cells	Globulin	Spinal Fluid
5 14 15	Negative	46	Positive	Positive 0 2 c c
6 21 15	Negative	33	Positive	Positive 0 2 c c
7 8 15	Negative	30	Positive	Positive 0 2 c c
7 27 15	Negative	24	Positive	Positive 0 2 c c
9 9 15	Negative	8	Positive	Negative
10-12 15	Negative	0	Positive	Negative, 0 5 c.c.

A diagnosis of tabes dorsalis was made, and the patient was put on mercury by inunction without any salvarsan

He was given 2 drams daily of the official unguentum hydrargyrum, to which he responded by tenderness of the gums in three weeks The cerebrospinal fluid has been drained by lumbar puncture fourteen times

At present he is free from pain, has regained his normal weight, and though still ataxic when subject to test, he can go up and down-stairs with no trouble He looks and feels well and is anxious to get back to work The results in his treatment have been just as good as in any case we have treated with the Swift-Ellis method

We realize that these three cases prove nothing We know that the time of observation is too short to eliminate the improvement in a case of paresis which may be due only to a remission, but we see that from a clinical and laboratory point of view these three patients as well as others we have under treatment are improved, and we feel that we are justified in making this preliminary report in order to stimulate work in this field We do not see any improvement in reflexes such as the knee-jerk and pupillary reactions We see marked improvement in mental and physical health with lessening of the ataxic symptoms

---

A CASE OF HEMIPARESIS, ATAXIA AND ASTEREOGNOSIS ASSOCIATED WITH ARACHNOIDAL EDEMA *

HANSELL CRENSHAW, M D
AND
CHARLES M REMSEN, M D
ATLANTA, GA

The following case is presented because of the interesting correlation of the symptomatology, gross pathologic findings and postoperative results

History—B H R, a landscape gardener, aged 49, was practically well until eighteen months prior to examination Fifteen years ago an abscess ruptured from the left ear, and a low grade otitis media followed The patient had been a hard drinker for several years, but had become much more temperate three months before examination

The onset of the present illness was gradual and consisted chiefly of dizziness After a few months the vertigo became so severe that the patient fell, striking his head and becoming unconscious The fall ruptured an abscess in the left ear (where the previous abscess had ruptured years before), and the patient was carried to a hospital, where he remained two months His memory at examination was poor concerning the two months spent in the hospital, but it appears that the patient gradually gained strength until he was able to return to work temporarily Dizziness, tinnitus and marked headache, however, slowly increased during the three or four months which elapsed from the time he left the hospital until he presented himself for examination

Occasionally, nausea and vomiting were associated with the ever-present headache which was referable to the left side of the head Visual acuity gradually decreased till at examination it was $^{20}/_{50}$ in both eyes The patient had fallen several times since leaving the hospital, but seldom became unconscious

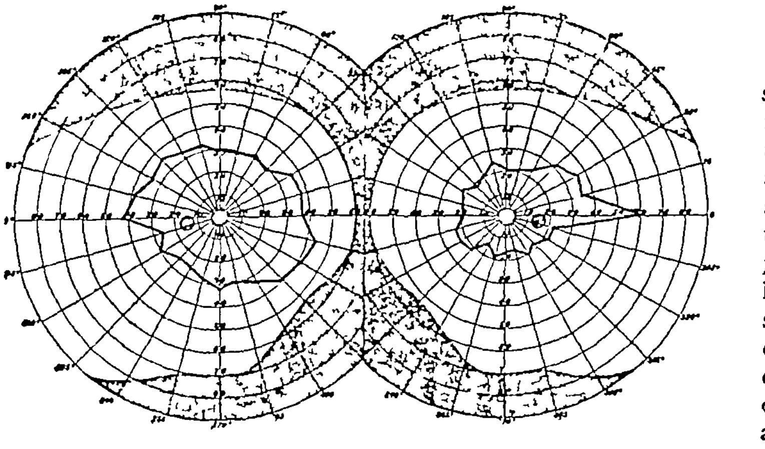


Chart of visual fields, showing concentric contraction

Examination—Mentally, the patient was amnesic for recent events, and said that his memory had been impaired since his first fall Also he was despondent, irritable and suicidally inclined Speech was not impaired, except in so far as the amnesia affected it There was no motor aphasia, no word deafness The patient repeated sentences fairly well, except when his memory failed him

The right hand of the patient underwent frequent spasmodic flexor movements and was incapable of performing the finer manipulations, as shown by his handwriting The finger nose test brought out incoordination and intention tremor of the hands, but more marked in the right The heel knee test revealed incoordination of the lower extremities, but much greater in the right leg The patient volunteered that the right leg had been somewhat wasted two years ago Muscular weakness was evident from tests of both legs, but was more marked in the right Now and then the right leg was spasmodically flexed, while the head and spine were suddenly extended The grip in the right hand was impaired

The tendon reflexes were exaggerated, especially the right patellar, and there was some spasticity of the legs Romberg's sign was positive

There was defective hearing and a "clicking sound" in the left ear, the vision was impaired in both eyes, the visual fields exhibiting an irregular concentric contraction as shown in the accompanying chart, but the eyegrounds were normal, showing no edema or evidence of choked disk

There was pain from the elbow down and from the knee down, particularly on the right side, and the right hand was deficient in the stereognostic sense, the patient not being able to recognize a pencil by its feel in the right hand, though he recognized it readily enough by feeling it with his left hand There was no anesthesia, nor disturbance of cranial nerve functions, other than optic and auditory Neither the pulse nor the blood pressure was abnormal

Laboratory investigation was uniformly negative This included (1) a Wassermann of the blood, (2) a differential blood count, (3) a Wassermann and cell count of the cerebrospinal fluid, and (4) urinalysis

Summary of Symptoms and Tentative Diagnosis—1 It was decided that the lesion in this case was on the left side of the cerebrum, involving the motor area for hand and leg, and including the angular gyrus where the stereognostic perceptive center is located Whether the pain in the right forearm and leg were referable to the sensory areas back of the rolandic fissure or merely to muscular irritation from spasm of the muscles in the forearm and leg was doubtful

2 The dizziness, headache and nausea indicated some intracranial pressure, even though the eyegrounds, pulse and blood pressure were negative in this respect Therefore, it was thought that a diffuse accumulation of fluid of some sort existed over the left side of the brain, extending as far forward as the prerolandic region and as far posteriorly as the angular gyrus, near the extremity of the sylvian fissure

3 Brain abscess was suggested by the history of recurrent middle ear abscess, but the blood count was negative, and the idea of abscess was not accepted without reservation A diffuse cyst was more confidently expected, a view somewhat supported by the history of prolonged alcoholism

4 Finally, a localized traumatic meningitis was considered, inasmuch as the patient had sustained a blow on the left side of the head in falling, sufficient to render him unconscious and to rupture an abscess of the middle ear

In view of the foregoing findings, operation was advised

Exploratory craniotomy, leptomeningitis chronica, arachnoidal edema and pseudocystic formation associated with

---

* Presented at the August, 1915, meeting of the Atlanta Neurological Society

superficial focal cerebritis situated principally on the posterior border of the rolandic fissure Multiple arachnoidal scarification, temporary drainage

Operation—(Dr Charles M Remsen Aug 8, 1915 Gas-oxygen ether anesthesia) Left craniotomy performed by the usual technic The bone was excessively vascular, and the hemorrhage could only be controlled by bone wax After reflecting the flap a rather tense dura presented and there was a distinct tendency toward herniation of the underlying tissue through the opening Instead of a normal cortex presenting, covered with the normal leptomeninges, one saw somewhat enlarged cortical vessels faintly shimmering through a cloudy edematous membranous meshwork Accompanying the vessels, and usually to either side, could be seen white diffuse streaks suggesting delicate connective tissue thickening The overlying edematous membrane showed flecks of yellow irregular plaques which also seemed to have a distinct relation to the underlying vessels The convolutions were barely discernible This condition seemed to be a rather diffuse process extending from the region somewhat anterior to the fissure of Rolando to a region 4 or 5 cm posterior to this fissure The exact relation to the fissure could not be ascertained on account of the edema or fluid collection within and under this arachnoidal membrane Careful inspection of the cortex necessitated multiple punctures of the overlying membrane, great care being taken to avoid even the most minute blood vessels in order not to have the field disturbed by the presence of the slightest hemorrhage Gentle gauze pressure brought about the escape of a large amount of fluid through the puncture holes and this allowed the arachnoid to approach more closely its normal state, permitting a careful inspection of the underlying cortex More accurate orientation was now possible and the location of this accumulation whether edema or cerebrospinal fluid, was ascertained, being greatest along the posterior belt of the rolandic fissure, especially in the direction of the fissure of Sylvius but reaching upward toward the great longitudinal fissure and extending downward onto the temporal lobe It reached forward several centimeters onto the frontal lobe and backward as far as the ascending limb of the cerebral fissure The underlying cortex showed a slight edema and was irregularly spotted with cloudy deposits, suggesting faint connective tissue thickening in the pia. The appearance, as a whole, denoted a diffuse, partially localized area of marked edema of the arachnoid with perhaps an excess accumulation of cerebrospinal fluid directly underlying it Underneath this lay a somewhat swollen cortex, suggesting a chronic leptomeningitis and superficial cerebritis with slight connective tissue formation, the edema automatically causing a pressure on the underlying nervous tissue Though diffuse, this area of arachnoidal edema or chronic leptomeningitis was most marked just posterior to the fissure of Rolando, at which point the deeper leptomeninx showed more evidences of connective tissue thickening than elsewhere, the arachnoidal meshwork was more markedly distended with fluid, the underlying cortex was more edematous and showed a greater tendency to bulge on the relief of pressure, and the connective tissue formation about the blood vessels was more pronounced

Brain puncture revealed no deep cystic accumulation We were forced to consider the condition as a superficial lesion and accordingly by multiple scarification of the outer leptomeninx we were able to release the fluid from its confines, and allow the arachnoid to sink into its normal position in approximation with the pia and cortex

A small protective wick was led from this region, through a dural cleft after the reposition and resuturing of this flap This took care of the excess fluid for about five days, following which there was no discharge The osteoplastic and skin flaps were replaced in the usual manner and healing was per primam

Before closing a small section of bone was removed anterior to the flap to serve as a slight decompressive vent The convalescence was uneventful and the patient left the hospital on the seventh day

During that period the only symptom of note was some stuttering which for the first four days was markedly increased, following which there was a rapid vanishing of this symptom, which has never reappeared

Outcome—At this time, three months after operation examination shows the following improvement and changes in symptoms

1 Motor Disappearance of the spasmodic movements of hand and leg, almost complete clearing up of ataxia, so that the finger-nose test shows no abnormality, and the patient neither stumbles nor falls

2 Sensory Diminution of pain below elbow and knee, relief from headaches, complete relief from astereognosis

3 Mental Great improvement in memory, lessened irritability, cessation of suicidal impulses

Finally the patient's general improvement is such that he has been able to return to work

PASTEURIZATION OF MILK SUPPLIES AS A PROTECTION AGAINST TYPHOID FEVER

REPORT OF AN EPIDEMIC

J C GEIGER, M D
AND
F L KELLY, M D
Assistant Director and Bacteriologist, respectively of the Bureau of Communicable Diseases of the California State Board of Health
BERKELEY, CALIF

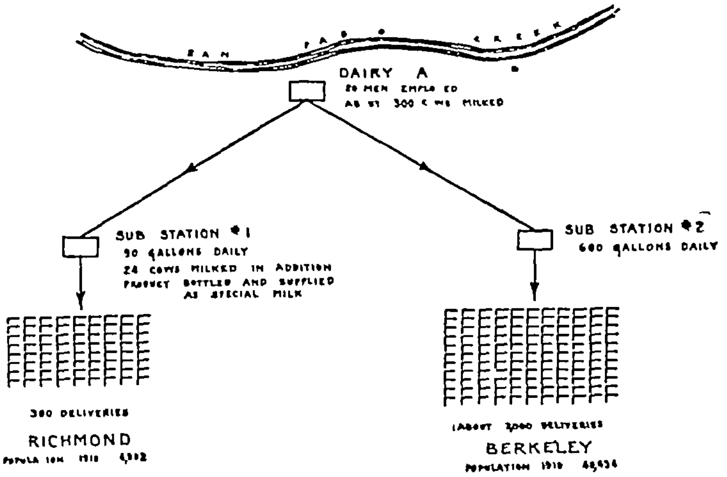
Pursuant to instructions received from the office of the secretary of the California State Board of Health, an investigation was made of a number of cases of typhoid fever which were occurring in Richmond, Calif The health officer had previously informed the California State Board of Health that a number of cases were traceable to a dairy in Richmond, which will be known as Substation 1 Unfortunately, instructions were given to him to close this dairy At our initial conference with the health officer, he submitted evidence that the source of infection of the majority of the cases of typhoid fever reported in Richmond was the milk supply coming from Substation 1

The number of cases in this outbreak was approximately 12, with no deaths The majority of the patients came down with symptoms on or about Nov 1, 1915

Substation 1 is a dairy situated on the outskirts of the city of Richmond, and makes approximately 300 deliveries a day in the city proper Twenty-four cows of its own are milked, and the resulting product is bottled and supplied as a special milk to babies They also receive from Dairy A, on San Pablo Creek, Contra Costa County, 90 gallons of milk a day, which is sold separately from milk obtained from their own cows The conditions at Substation 1 were excellent The records were so kept that we were able to demonstrate conclusively that the persons with typhoid fever were supplied by milk that came from Dairy A

Dairy A is a large dairy employing twenty men and milking approximately 300 cows It is situated on San Pablo Creek, about three miles from the city of Richmond and ten miles from the city of Berkeley This dairy supplies 90 gallons of milk a day for delivery in Richmond to Substation 1, and 600 gallons daily to Substation 2, for delivery in Berkeley Substation 2, in Berkeley, has approximately 2,000 deliveries daily It could be considered that at least 6,000 per sons received milk obtained from this source and possibly 500 from Substation 1

There were no persons ill at Dairy A at the time of our investigation, except that a milker who came under our observation had a streptococcus infection of the hand The majority of the men employed were non-English speaking Portuguese By diligent inquiry we learned that the head milker, a Portuguese by the name of Azevedo, had been ill for a few days and was in the care of a physician, whose name was not known, in a hospital in Berkeley At the hospital the man was found in such a condition that we were unable to obtain any information from him whatever The hospital records showed that he was brought into the hospital by Dr X of Richmond, Oct 26, 1915 The diagnosis on the hospital chart was given as typhoid fever, and positive Widals had been obtained at the Berkeley City Laboratory On subsequent inquiry of Dr X it was learned that this man came to him, October 26, with a high temperature and feeling very bad The patient was immediately placed in the hospital, but the case was not reported to the health officer of Richmond or to the health officer of Contra Costa County, though typhoid fever was suspected at the time From our conversation with Dr X we obtained the impression that he know, or had heard, that this case came from Dairy A on San Pablo Creek From Dr X it was learned that this man was evidently ill a week before he came to consult him, proving that the appearance of symptoms in the majority of the cases was consistent with the incubation period of typhoid fever, and the probable time of infection It was impossible to trace the infection of this case, as there was no one else ill with typhoid fever at the dairy, but from the owner it was learned that as head milker it was necessary for him to take trips to the different cities in the bay region, as he bought provisions and hired help The water supplies were checked bacteriologically, and one well was condemned Subsequent field investigation showed this well to have undoubtedly received its contamination from sources other than human beings It is situated in a depression in an isolated field used as a grazing ground for cattle



Relation of Dairy A to the Richmond and Berkeley milk supplies All the cases of typhoid were at Richmond, supplied by Substation 1, at which the milk is not pasteurized At Berkeley, supplied by Sub station 2, at which the milk is pasteurized, there were no cases

An interesting observation noted was the small number of cases in Richmond, twelve, in comparison to the number of persons receiving the infected milk, 500 A previous milk-borne epidemic of typhoid fever in California was reported to the state board of health, in which the cases, as in this epidemic, were few in number, with no fatalities[1]

The twelve cases of typhoid fever occurring in Richmond were traceable to the milk coming from Dairy A In contrast, there were no cases of typhoid fever in the city of Berkeley traceable to this milk supply, notwithstanding the fact that 600 gallons of milk, undoubtedly infected with the typhoid bacillus, were supplied daily to Substation 2 This is evidently due to the fact that, although receiving the same milk that caused the outbreak of typhoid fever in the city of Richmond, the milk supplied to Substation 2 in the city of Berkeley was pasteurized This constitutes a unique and unparalleled experiment with human beings — accidental, of course, but demonstrating conclusively the practicability of pasteurization of milk supplies as a factor in diminishing typhoid fever The absolute protection that pasteurization gave to customers of Substation 2, thousands in number, who were supplied with milk so treated, is an indisputable argument against the use of raw milk when it is not possible to compel thorough medical examination of dairy employees at frequent intervals

---

SUBDELTOID BURSITIS ASSOCIATED WITH THE DEPOSITION OF LIME SALTS

ALBERT H MONTGOMERY, M D
CHICAGO

In roentgenograms of the shoulder region one or many shadows, varying in size, are not infrequently found on the outer side of the head of the humerus between the greater tubercle and the acromion process These shadows may be unaccompanied by symptoms or they may be associated with so much pain that the patient is practically incapacitated Two of the eight patients observed by Stieda were obliged to take to bed because of the severity of the pain Notwithstanding the similarity between the cases that have been reported, there is considerable difference of opinion as to the etiology of the lesion associated with the deposition of lime salts, and also as to the structures involved Painter, Haenisch and Stieda believe that the lime salts casting the shadow are deposited within the wall or cavity of the subdeltoid bursa, while Wrede, Codman and Brickner believe that they are deposited in the tendon of the supraspinatus or even, in some cases in that of the infraspinatus muscle, and that they are deposited after a contusion or laceration of the tendons just mentioned Brickner in a recent article makes the statement that the shadow seen roentgenographically is never due to thickening of the bursal walls, that it is always caused by calcareous deposits, that this deposit is never in, but always beneath, the bursa in or on the supraspinatus or sometimes the infraspinatus tendon, that removal of the bursa is unnecessary and that its complete excision as recommended in some books is impossible except by mutilating dissection

The following case is reported because both the clinical and the Roentgen-ray findings indicated a bursitis associated with calcium deposits, which disproves many statements made concerning the lesion

---

[1] Geiger, J C A Milk Borne Typhoid Fever Outbreak at Colusa in May, 1915, Bull California State Board of Health, June, 1915

Brickner Wrede and others believe that this rather peculiar lesion is always associated with some injury of the supraspinatus or at times infraspinatus, tendon The findings revealed by operation were so typical that there could be no doubt as to the anatomic structure involved

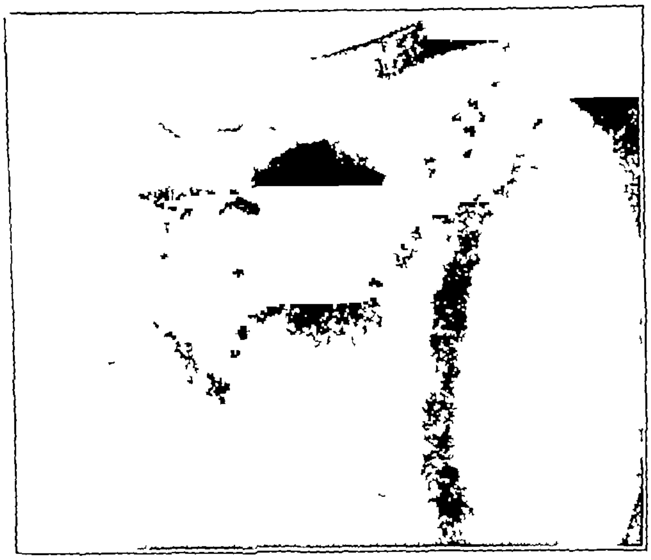
REPORT OF CASE

History—Mrs E G aged 42 was admitted to the service of Dr Dean Lewis at the Presbyterian Hospital Aug 19 1915 She complained of severe pain in and about the left shoulder and fixation of the arm to the side of the chest The pain in the shoulder was first noted in the spring of 1909 when it was regarded as rheumatic in character The patient at this time took treatment at Mount Clemens for four weeks after which she was comparatively free from pain for six months The pain then reappeared and subsequently a course of treatment at Mount Clemens was repeated without relief During the past few months the pain has been so severe that the patient has required narcotics and her general health has been impaired because of constant suffering and loss of sleep While there has been some pain the year around it has increased in intensity during the autumn and spring

The pain is severe often shooting in character It is most marked over the region of the shoulder anteriorly but radiates downward to the elbow and the flexor surface of the forearm and into the neck along the course of the brachial plexus There are no sensory or motor disturbances of the nerves of the left upper extremity

Examination—The arm is held tightly to the chest and when abduction is attempted a vigorous muscle spasm develops which prevents any abduction whatsoever unless considerable force is employed, and then the pain is greatly increased Both external and internal rotation of the arm are limited

When pressure is made over the greater tubercle of the humerus, marked tenderness is elicited The point of maximum tenderness corresponds to a distinct localized swelling about the size of a silver dollar which in position and extent would seem to be caused by an enlargement of the subdeltoid bursa


Roentgenogram of shoulder structures in author's case

The Roentgen ray examination (made by Dr Hollis E Potter) revealed a distinct shadow capping the greater tubercle of the humerus and extending upward beneath the acromion The shadow is very distinct in outline and separated from the tubercle by a distinct space The space between the shadow and the humerus is so wide that it would scarcely seem possible that the lime salts responsible for it could be within the tendon of either the supraspinatus or infraspinatus tendons There is a distinct projection from the upper end of the shadow apparently into the cavity of the bursa

Because of the duration and intensity of the symptoms without relief from therapeutic measures formerly employed extirpation of the subdeltoid bursa was decided on

Operation—A vertical incision between 4 and 5 inches in length was made from the middle of the acromion process downward over the prominence already mentioned toward the external condyle The deltoid muscle was exposed and its fibers separated by blunt dissection the axillary nerve being exposed in the lower angle of the wound As the muscle fibers over the swelling were exposed a peculiar mottled tissue was found, into which some recent small punctate hemorrhages had occurred The amorphous masses of lime salts were deposited in the upper wall of the bursa, which was considerably thickened By wide retraction of the separated edges of the deltoid muscle, the subacromial extension of the bursa could be dissected out Notwithstanding the statement of Wrede and Brickner, extirpation of the bursa is possible if the separated muscle edges are retracted widely The calcium deposits were confined to the upper wall of the bursa The wall lying on the humerus and supraspinatus tendons was intact and the tendon of the supraspinatus muscle appeared normal

After extirpation of the bursa a thin fat transplant was dissected up from the edges of the wound and transplanted free into the space formerly occupied by the bursa and fixed in position by some fine catgut sutures No immobilizing dressing was applied

The pain subsided immediately after the operation The patient when seen seven weeks after the operation had fairly free motion of the arm Although abduction was somewhat limited the arm could be carried away from the body to 60 or 65 degrees

Microscopic Examination—Microscopically the tissue removed presents distinct inflammatory changes There are numerous large giant cells and the changes are much like those described by Benecke in gouty foci In the clinical examination no evidences of gouty deposits were found in other parts of the body Although no chemical tests were made the amorphous mass in the wall of the bursa corresponded to those described by Stieda and others, which proved to be calcium carbonate and phosphate

No distinct etiologic factor could be determined in this case Trauma involving the bursa or supraspinatus tendon could be excluded The only probable etiologic factor is repeated attacks of tonsillitis about the time the pain appeared in the shoulder

There is a difference of opinion as to the method of treatment to be employed in these cases The lime deposits may disappear as has been noted by Haenisch Some of the large shadows observed by him had practically or totally disappeared when the patient was examined a few weeks subsequently The symptoms may improve under muscle and capsular massage and dry or moist heat applied locally I believe that the best treatment, however, is excision of the bursa, which is possible even without a mutilating operation

This case is so typical both in Roentgen-ray and operative findings as to leave no doubt that the bursa is the structure primarily involved, and disproves the rather dogmatic statements of both Wrede and Brickner that the lime deposits in these cases always occur in the supraspinatus tendon following contusion or laceration of that structure

---

Diabetes Death Rate—During 1914 according to a bulletin of the Bureau of the Census diabetes caused 10 666 deaths or 16.2 per 100 000 The rate from this disease has risen almost continuously since 1900 when it was 9 7 per 100 000

FILARIA SANGUINIS HOMINIS

WITH REPORT OF A CASE

CADIS PHIPPS, M D
Second Assistant Physician, Boston City Hospital (Third Medical Service), Assistant Professor of Medicine, Tufts College Medical School
BOSTON

The *Filaria sanguinis hominis* (*Filaria nocturna, Filaria bancrofti*) was first described in 1863, when Demarquay discovered the parasites in chylocele fluid Later (1866) it was demonstrated in chylous urine by Wucherer It was not until 1872, however, that its presence in the blood was noted, by Lewis, and in 1876 Bancroft's investigations explained the disappearance of the parasite from the blood during the daytime by its migration to the lungs Two years later Manson found filariae in mosquitoes Further work by Manson, Bancroft, Low, and Fulleborn, and also by Grassi and Noe, who inoculated healthy dogs by means of infected mosquitoes, has given us our present knowledge of the life history of the parasites

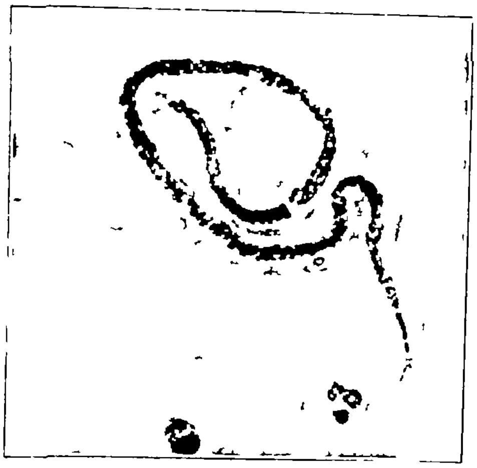


Fig 1 —Photomicrograph of filaria, × 500

In the human host the parasites (mostly females) lodge in the lymphatic system, especially of the scrotum, extremities, cord, epididymis and testicles The eggs, after leaving the uterus, where they are present in all stages of development, are carried through the lymph stream to the peripheral circulation During the daytime they resort to the lungs, being seen in the blood only at night It is of interest, however, to note here that in individuals whose work requires them to be up at night and to sleep during the day, the time of appearance of the microfilariae is reversed, and they appear in the circulation, in these cases, during the day This refutes the idea that the parasite has accommodated itself, for self-preservation, to the habits of the mosquito, and we must fall back on such indefinite explanations as circulatory or metabolic changes coincident with sleep

Seen in a specimen of fresh blood, the parasite looks like a very active worm or small snake, wriggling violently and knocking the corpuscles about, but altering its relative position little, if any The length varies from 150 to 300 microns, and the breadth from 7 to 11 microns It is enveloped by a sheath, or vitelline membrane, and has a blunt head and a tail which tapers off to a point, both anterior and posterior ends having clear, non-nucleated areas There are the "V-spots," or genital and excretory pores, and through the center of the parasite, running longitudinally, may be seen a central viscus occupying usually about half the length In the fresh specimen, transverse striations are made out over the body

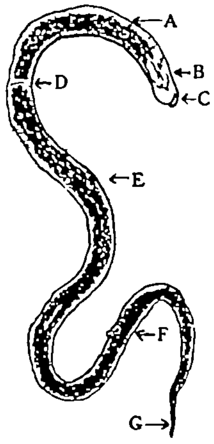


Fig 2 —Drawing of filaria *A* sheath, *B*, mouth, *C* head, *D* nerve ring (anterior break in cell column), *E* anterior "V spot" (excretory pore), *F* posterior "V spot" (genital pore) *G* tail

After the filaria has entered the mosquito's stomach, together with the blood ingested, the vitelline membrane is dissolved by the gastric juice, enabling the parasite to pierce the stomach wall with the sharp spine at its head and escape into the thoracic musculature, where it develops and is later carried to the salivary glands of the mosquito, ready to be inoculated into the next human being who is bitten

In the following case of filariasis, the patient came to my office and was referred from there to the Boston City Hospital, so that he might be observed as long as necessary into the night

REPORT OF CASE

History—Man, aged 20, single, actor, born in Spain, who had traveled extensively, especially in the tropics, with a good family history containing no suggestion of tuberculosis, cancer, epilepsy or insanity, stated that he had had no illness, except measles when a child, until three years ago, when, while in British Guiana, he noticed an increasing spinal curvature, for which he was fitted to a plaster jacket two years ago, wearing the jacket for about a year His habits were good, and he denied having had any venereal disease

After wearing the plaster jacket for about six months, the patient noticed slight swellings in both groins, which have gradually increased, finally involving the left testicle also He was absolutely free from all other symptoms, he had no cough, night sweats, dyspnea, edema, loss in weight, or disturbance in micturition The appetite had been good and the bowels had moved regularly

Physical examination —The patient was well nourished and well developed except for a moderate left scoliosis There was marked pallor of the skin, but the mucous membranes were of good color The pupils reacted normally The teeth were good, and the mouth and throat normal There was no cervical glandular enlargement The lungs were resonant throughout, there was no modification of the normal breath sounds, and no râles were heard Heart Dulness extended 2 5 cm to the right of the midsternal line and 9 5 cm to the left, the action was regular, and no murmurs were heard The systolic blood pressure was 125 (all the impulses coming through), and the diastolic 85 The abdomen showed nothing abnormal The liver and spleen were not felt The extremities showed no edema The reflexes were normal There was a soft, irregular mass the size of half an orange in the left groin and a corresponding one on the right, half that size Neither side was tender The left testicle was about twice the size of the right, but was not tender The urine was normal The Wassermann reaction was negative

There were no parasites seen until 9 p m, when an occasional one could be demonstrated At 11 p m there were two or three in practically every field Hemoglobin was 95 per cent, red count, 4,704,000, white count, 12,600, differential white count showed 74 per cent polymorphonuclear neutrophils, 13 per cent small lymphocytes, 5 per cent large lymphocytes, 6 per cent eosinophils, 1 per cent transitional cells, and 1 per cent mast cells

On the following morning the patient was given 0 4 gm of salvarsan intravenously Repeated examinations of the blood during the following night failed to show the presence of any parasites

Although I felt at the time that a cure could not be claimed from the administration of salvarsan because of my inability to observe the case after a longer period of time, I have since discovered that the drug was given in nineteen cases by Edmund R Branch[1] with excellent results in all instances In only two of his cases seen afterward were the parasites found, and it may perfectly well have been due to reinfection, as the patients lived in a country in which filariasis was endemic

---

[1] Branch E R Salvarsan in Filariasis, Jour Trop Med 1913 xvi, 364

The marked pallor of the skin in the case described was undoubtedly due to "superficial ischemia and not to a deficiency in the total quantity, or in any particular constituent of the blood," as mentioned by Chamberlain[2]

The photomicrograph was made from a specimen stained with Wright's blood stain, the drawing was of a specimen stained faintly with an aqueous solution of methylene blue

536 Commonwealth Avenue

COMPLETE EXCLUSION OF THE LARGE BOWEL

SUBMUCOUS FREE FASCIAL TRANSPLANT METHOD, WITH ILEOSIGMOIDOSTOMY *

ALFRED A STRAUSS, M D
CHICAGO

It is my object to show a new and simple method for completely excluding the large bowel when ileosigmoidostomy or colectomy is considered In general, the indications for ileosigmoidostomy and colectomy are as follows

1 Chronic obstruction along the course of the colon produced by adhesions or cicatrization, which cannot be freed sufficiently to absolutely relieve the obstruction
2 Certain well-selected cases of Hirschsprung's disease
3 Long-continued chronic inflammatory conditions of the colon, especially those which produce chronic diarrhea in spite of medical treatment
4 Chronic ulcerative colitis
5 Malignant disease of the colon

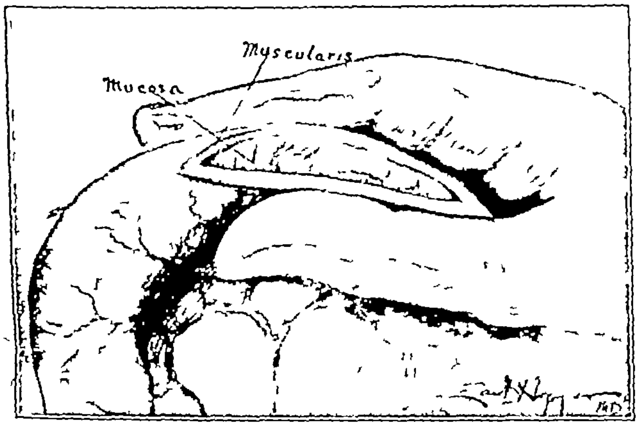


Fig 1—Incision through muscularis down to mucosa

It has long been recognized from Roentgen study that ileocolostomy alone nearly always results in a certain amount of regurgitation of some of the contents along the colon and cecum, but a greater part of this, I believe, passes by the ileosigmoidostomy along the ileum and follows its normal route, in spite of the ileosigmoidostomy For this reason, many surgeons advise colectomy Prominent among these advocates is Sir Berkeley Moynihan of Leeds Sir Bertram Dawson[1] of London says

> The best results from colectomy were seen when the large bowel was definitely affected However, the colon must not be regarded as a useless organ, which is just as well removed as left Aside, too, from the mortality, which was considerable, it was often followed by persistent and severe bowel derangement The situation as regarded colectomy was that the operation was distinguished by brilliant success and just as striking failures When an appendix was removed and the symptoms continued, at all events, no harm had been done to the patient A gastro-enterostomy, which was unsuccessful, could be undone, but a colectomy, founded on mistaken diagnosis, could never be undone

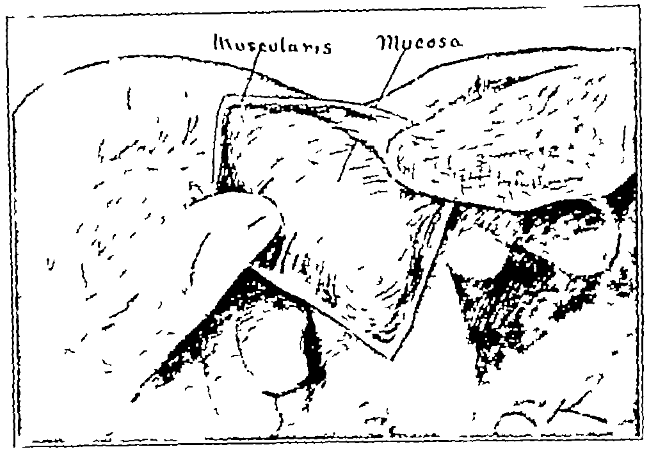


Fig 2—Peeling muscularis from mucosa

It is exactly for these reasons, as stated above, that I want to present this method, for, as will be shown later, on complete exclusion of the colon by this method, the normal course of the colon can be reconstructed again by a secondary operation, should the condition warrant, to reestablish the course of the intestinal contents along the colon The methods heretofore used when the bowel was divided are those of Doyen's purse-string, of Moszkowicz, who used an enterotribe, cauterized the edges, and inverted them

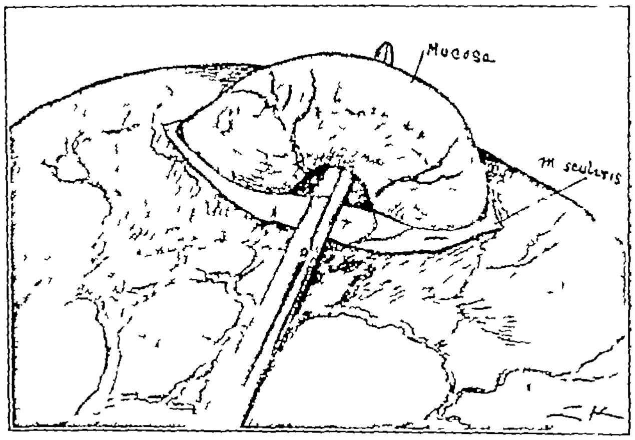


Fig 3—Passing forceps between muscularis and mucosa between mesenteric vessels without injury to vessels

with interrupted Lembert sutures while the enterotribe was still in place, and of von Klapp, who modified this method by rolling the edges over after cauterization, suturing the rolled-over intestine with continuous suture The methods used when the bowel was to be stenosed or obliterated in its continuity are those of Mosetig, who used a heavy piece of silk around the colon, burying this with several rows of Lembert sutures It has been shown, however, that this does not hold, since the sutures slough into the lumen of the bowel Bogoljuboft took a narrow piece of fascia, which he tied around the bowel and buried it with Lembert sutures In repeating Bogoljuboft s work I found that if a narrow strip of fascia was taken it often did not hold, especially in the large bowel, and if a wider strip of fascia, from one-half to three-quarters inch in width, was taken, I could not close the bowel over this broad area

---

[2] Chamberlain W P The Red Corpuscles and the Hemoglobin of Healthy Adult American Males Residing in the Philippines Philippine Jour Sc., Sec B, 1911 vi 467

* Read before the Chicago Medical Society Feb 10 1915

* From the Department of Experimental Surgery Morris Institute for Medical Research Michael Reese Hospital

[1] Dawson, Bertram Discussion on Intestinal Stasis at the Clinical Congress of Surgeons of North America, 1914

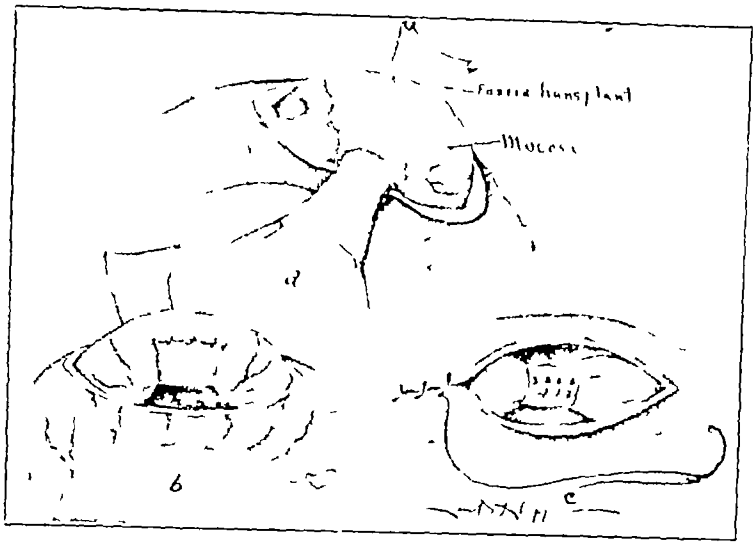


Fig 4 —*a* Fascial transplant placed around mucosa, *b* fascial transplant sutured to mucosa *c* free end of fascial transplant sutured over attached portion, making the closure complete

In performing several of these closures by this method, without closing the bowel over the fascial transplant, I found that extensive adhesions formed, and several animals had acute intestinal obstruction It is for this reason that I want to demonstrate the following method, which in principle is practically the same as the one which I have demonstrated for pyloric closure[2]

An incision was made in the midline below the umbilicus The anterior sheath of the rectus was exposed A flap was resected, three-quarters inch by 1 inch The ileum was picked up about 3 inches from the ileocecal valve, and tightly grasped between the thumb and index finger An incision was then made on the convex surface of the ileum opposite the mesentery, about 1 inch in length (Fig 1), which divided both muscular coats down to the mucosa Great care must be taken in making this incision or the mucosa will be punctured Two strokes with the scalpel on each side between the mucosa and muscularis freed the mucosa sufficiently so one could grasp each edge of the divided muscle and peel it away from the mucosa down to its mesenteric attachment It peeled exactly as one would peel an orange The muscularis peeled off surprisingly easily and without the slightest hemorrhage (Fig 2) An artery forceps was passed through between the mucosa and muscularis at its mesenteric attachment I found that by selecting a portion of the bowel between two mesenteric arteries the mucosa was practically not attached to the muscularis and the forceps pass through with ease and without injury to the mesenteric vessels (Fig 3) The free fascial transplant from the anterior sheath of the rectus was placed around the mucosa (Fig 4, *a*) One end of this transplant was sutured with interrupted sutures to the mucosa (Fig 4 *b*) On the other end traction was made which collapses the mucosa and rotates it about one eighth of a turn on its longitudinal axis This aids in making it a complete closure The other end of the transplant was sutured with interrupted sutures to the surface of the attached portion just tightly enough to hold it in a collapsed condition, and a third row to hold down the edge (Fig 4, *c*)

The mucosa was now replaced in its normal position within the muscularis and was closed by continuous or interrupted sutures An ileosigmoidostomy was then performed in the usual manner

Twelve dogs were operated on by this method They were kept on fluids and milk for six days, and then given a full diet All of them remained in good health, and many of them gained tremendously in weight At the end of three months four of them were fluoroscoped The ileosigmoidostomy was working perfectly, and no bismuth or food could be detected higher up in the colon than just immediately around the ileosigmoidostomy These animals were then killed Necropsy showed that the colon was not distended, was free from fecal contents, and appeared normal in every way The closure at the ileum distal to the ileosigmoidostomy was absolutely perfect as shown by placing the bowel under the hydrant and trying to force water through it

Four more animals were killed at the end of six months They showed exactly the same condition, with the exception that two of them had a slight amount of regurgitation of bismuth into the colon, but on necropsy the colon was found normal and collapsed

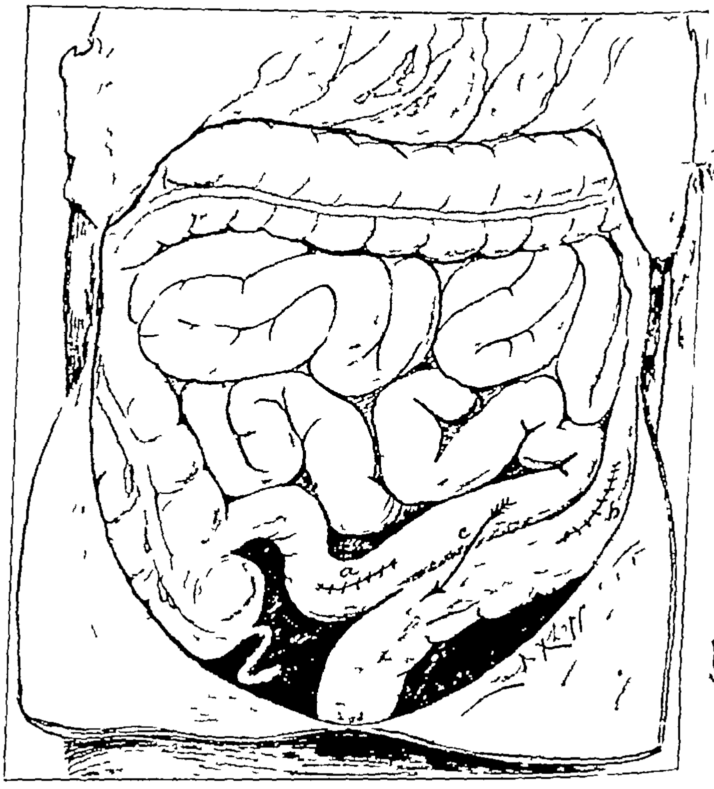


Fig 5 —Complete exclusion of colon *a* closure near ileocecal valve, *b* closure of colon above ileosigmoidostomy *c* ileosigmoidostomy

A few fine, weblike adhesions were present in three of these animals, between two loops of ileum and the ileosigmoidostomy

Four more animals were fluoroscoped at the end of nine months None of these showed any regurgitation along the colon On necropsy the colon was found to be empty and perfectly normal in its appearance The site where the ileum was closed by the submucous free fascial transplant was absolutely free from adhesions and one could hardly tell that the ileum was closed except for the cordlike contraction of the ileum from the point of closure to the ileocecal valve

---

[2] Strauss A A Two New Methods of Closure of the Pylorus for Pyloric and Duodenal Ulcer, The Journal A M A, Oct 31, 1914 p 1523

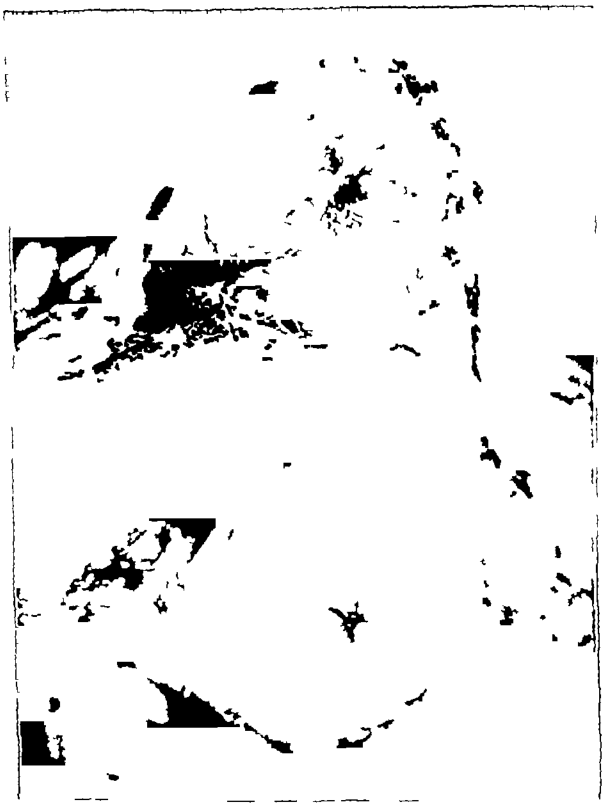


Fig 6 —Showing complete occlusion of lumen of bowel

Ten more animals were operated on by the same method with the exception that the colon was also closed in exactly the same method as the ileum, so that the entire colon was completely excluded, as in Figure 5 We found that the mucosa shells out in the colon even with greater ease than it does in the ileum Six of these animals were given a dose of apomorphin hydrochlorid hypodermically fifteen minutes before anesthesia This caused a thorough evacuation of the large bowel, the object being to have the closed-off colon not filled with intestinal contents The other four animals were operated on, excluding the colon above and the ileum below the ileosigmoidostomy without emptying the bowel, in order to see what effect the intestinal contents would have in the closed-off colon upon the general health of the animal

Two of the first six animals died from a peritonitis which was due to a colon infection following immediately after operation The other eight animals made uneventful recoveries, all of them seemed to be well nourished, and many of them gained in weight Four of the first six animals were fluoroscoped three months after operation The ileosigmoidostomy seemed to be working perfectly, and no intestinal contents or bismuth could be seen in the closed-off colon At necropsy there were found a few fine, weblike adhesions between the loops of ileum and the ileosigmoidostomy in one animal, the rest were perfectly free Only three of these four animals were killed, one being held for further study The colon was contracted down and had a cordlike appearance There were practically no secretions, only a slight moisture found in the completely closed-off colon The closures at both the colon and the ileum were found to be absolutely water-tight by the hydrant test

The other four animals in which the intestinal contents were left in the closed-off colon were fluoroscoped five months after operation The ileosigmoidostomy seemed to be working perfectly, and nothing could be found abnormal in the colon At necropsy the closed-off colon seemed perfectly normal and contracted down the same as in the previous animals except at the lower portion above the closure of the colon Here was found a hard, inspissated mass simulating an enterolith which, however, seemed to have no ill effects on the animal or produce any gaseous distention of the colon The intestines of all these animals were subjected to the water test and the closures found to be absolutely water-tight

One animal was just recently killed, fourteen months after operation The abdomen was perfectly free from adhesions the ileum distal to the closure and the entire portion of the closed-off colon were contracted down and cordlike in appearance There were also no adhesions of any sort found where the fascial transplant was inserted, and on first examination it was difficult to detect that any transplant was inserted, except for the cordlike contraction of the bowel between these closures

On cross-section (Fig 6), the lumen of the ileum was completely closed and microscopic sections (Fig 7) showed the fascial transplant to be perfectly organized between the mucosa and muscularis, and the mucosa appeared normal

On transverse section of the colon through the transplant, the colon was completely closed, and the fascial transplant perfectly organized (Fig 8) The mucosa appeared normal

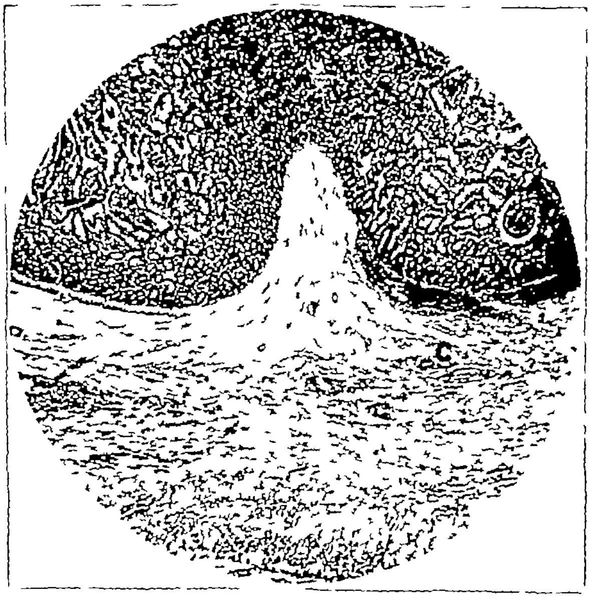


Fig 7 —Fascial transplant c fascial transplant perfectly organized with that of mucosa

Figure 9 is a photograph of a specimen from an animal, fourteen months after operation, showing the contracted cordlike bowel between the two closures

The foregoing experiments demonstrate the ease with which the colon can be excluded when a condition is present which warrants it It also demonstrates beyond a doubt that, in the dog at least, it is perfectly safe to exclude the colon by closing off at the ileocecal valve, and above the sigmoid by this submucous transplant method, with an ileosigmoidostomy The animals which did not have the colon emptied before this procedure did just as well as those in which the colon was emptied before closing it off

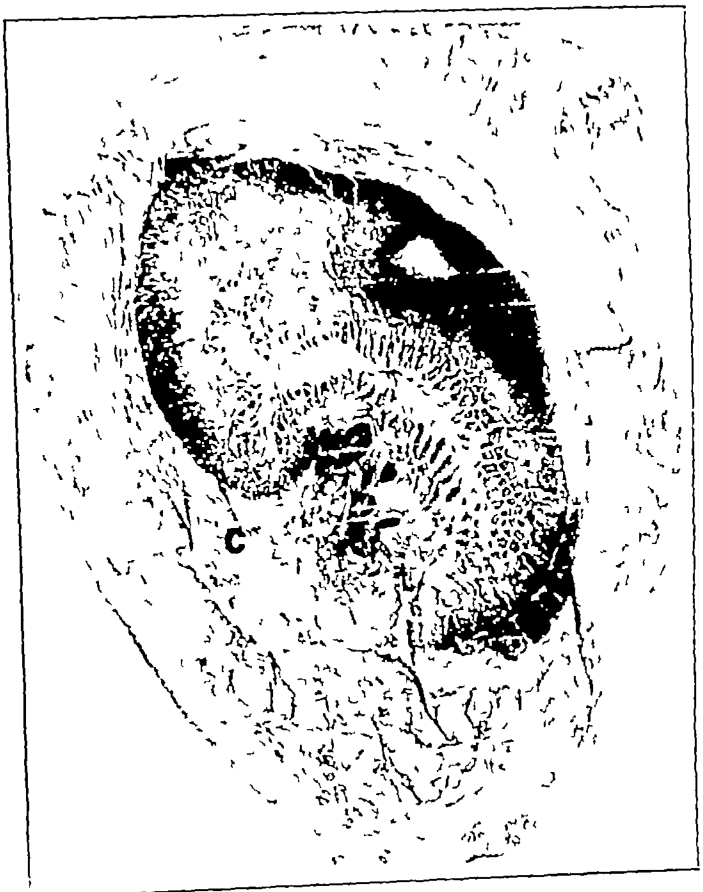


Fig 8—Photomicrograph through closed off colon *c* fascial transplant perfectly organized, the mucosa of the colon perfectly normal

These results are in direct variance with the clinical experience reported by von Eiselsberg and others who excluded the colon by dividing the bowel completely at the ileocecal valve and above the sigmoid Each end was closed and an ileosigmoidostomy performed In from one to several days the colon in these patients became so tremendously distended that a second operation had to be performed to relieve it Why there should be this difference of conditions between man and dog is surely not very clear, for, from an anatomic and physiologic standpoint, there is certainly no great difference in the function of the colon in dog and man Our animals that were operated on certainly were fed on a mixed diet, the same as the patients in a hospital, including vegetables, meat and bread, so the physiology of digestion and absorption should be exactly the same in the dog as in man

It is possible, however, that when the colon was excluded in man, by dividing the entire bowel near the ileocecal valve and above the sigmoid, a paralysis is produced which causes this distention, while by this new submucous fascial transplant method, in which the musculature and mucosa were not divided, no such paralysis occurs This question we are now trying to answer by further investigation

At the necropsy of all these animals, we were absolutely convinced that where the bowel is closed off by this submucous free fascial transplant method, the mucosa is not destroyed and the lumen of the bowel can easily be reconstructed by resecting away the fascial transplant or its resulting cicatrization, and then suturing the longitudinal incision made into the bowel transversely So, if the ileosigmoidostomy needs to be undone, the intestinal contents can again take their normal course through the colon

This method is certainly a very useful one in cases in which the rectum or the sigmoid needs to be closed off and an artificial anus produced above the closure, especially in cases of carcinoma, where it is highly desirable that none of the secretions should flow through the carcinomatous bowel and keep on irritating it

CONCLUSIONS

1 This method of excluding the colon by submucous fascial transplant is very efficient and simple, Each end of the bowel can be easily closed off in between five and ten minutes The operation is absolutely free from hemorrhage, or chance for infection

2 In the dog, at least, it does not seem to make any difference whether the closed-off colon is full of intestinal contents or not This method has the advantage that the lumen can easily be reconstructed by a secondary operation

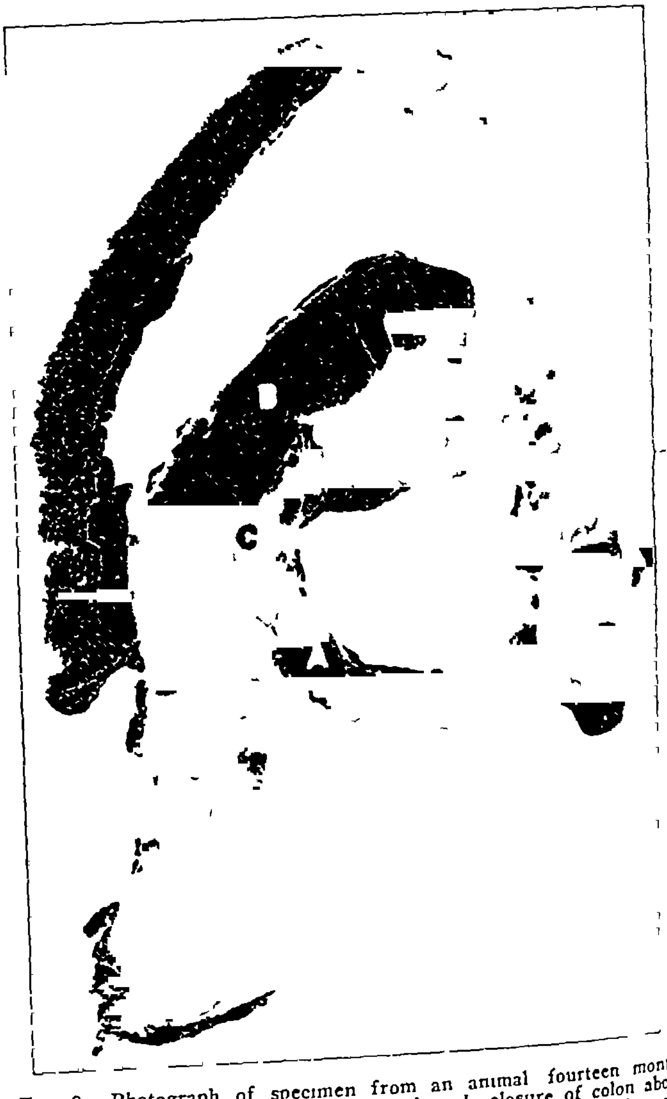


Fig 9—Photograph of specimen from an animal fourteen months after operation *a*, closure at ileocecal valve, *b*, closure of colon above ileosigmoidostomy, *c*, ileosigmoidostomy The closed off bowel between points *a* and *b* is cordlike and contracted, while the bowel below *b* is perfectly normal

3 From the fluoroscopic study, we believe that while some of the contents regurgitate into the colon,

most of the contents found in the colon are due to the food passing by the ileosigmoidostomy along the ileum into the cecum and colon. It seems, therefore, that simple closure of the ileum below the ileosigmoidostomy would suffice in most cases, and this would be safe in man; while, where both ends are closed, the appendix must be brought out in a separate wound for appendicostomy, should the colon become distended.

30 North Michigan Avenue.

PURPURA HEMORRHAGICA (MORBUS MACULOSUS WERLHOFII)

REPORT OF A FATAL CASE OF UNKNOWN ORIGIN

P. M. KELLOGG, M.D., ROGERS, N. D.

History.—W. V., aged 20, a farm hand, came to me Aug. 11, 1914, complaining of slight nosebleed which had started about twelve hours before and which he had been unable to stop. The bleeding, he stated, was not severe but rather bothersome. Examination revealed a small bleeding area on the right side of the nasal septum, apparently from a slight erosion of the mucous membrane. I applied epinephrin and packed the nose with a small gauze pack, telling the patient to remove it on the following morning. I prescribed fluidextract of ergot, 1 dram three times a day until the hemorrhage had ceased, and told the patient to remain quiet for the rest of the day.

The patient again appeared the following morning, rather alarmed. He said that the bleeding from the nose had not ceased and that he was bleeding from his mouth also. He gave the following history: His father and mother were both living and well, natives of Germany. Of a large family one sister had become suddenly insane during childbirth, and was at present in a sanatorium. The family history was otherwise negative. There was no history of a hemorrhagic tendency. The patient stated that he had lived in North Dakota all his life working on a farm, and had always been well. He had frequently cut or scratched himself, but had never noticed undue bleeding. A recent cut on his hand stopped bleeding promptly. At present he felt perfectly well although slightly weak. The bowels had been regular and the appetite good. He had never had rheumatism, but thought that he felt a little stiff in the knees. He had not had any abdominal pain or diarrhea. He had never had any disease of the upper respiratory tract or been troubled with sore mouth or gums.

Examination.—This revealed a well-nourished man of about 160 pounds. The temperature was 98.4, pulse 84, respiration 18. He was intelligent, but looked nervous and worried. The skin of the face, hands and body, with the exception of the abdomen, was covered with purpuric spots, ranging in size from that of a pinhead to that of a dollar. On the right hip was a large area of discoloration about the size of the palm of the hand and slightly raised in the center. The spots were more numerous on the back and the extensor surfaces of the arms and legs. On the face the spots were more discrete, assuming the character of blood-filled vesicles. The mucous membrane of the mouth, lips, cheeks, and hard and soft palate was covered with them and gave the appearance of being studded with small birdshot. Blood was oozing from the gums and from several points on the mucous membrane of the cheeks. The right tonsil was swollen and discolored but showed no tenderness. Blood was flowing from several of the tonsillar crypts. The left tonsil was normal in size and appearance. There was almost a complete line of vesicles at the mucous margin of the lower lip extending from one angle of the mouth to the other. There was a slight hemorrhage into the conjunctiva of the right eye. The heart and lungs were normal. Abdominal examination was negative. There was no indication of splenic or lymphatic enlargement. Reflexes were normal.

The urine was of a light straw color, specific gravity, 1.012, reaction, alkaline, albumin and sugar, negative, indican, trace, acetone, negative. There were no casts or cellular elements.

The hemoglobin was 80 per cent.; red blood cells 3,900,000, leukocytes 8,500. A differential count was not made. The lobe of the ear where the blood was withdrawn for examination bled until the patient's death two days later in spite of astringents and other measures to stop the hemorrhage.

Treatment and Result.—I again applied epinephrin to the bleeding surfaces, but aside from a slight blanching of the mucous membrane I could see no result from its application. I prescribed calcium chlorid, 1 dram in a 4-ounce emulsion, to be taken in dram doses throughout the day until all was taken. I told the patient to go home and to remain perfectly quiet in bed.

On the following morning he returned to my office saying that he felt better but was still bleeding from the nose and mouth. He had slept well during the night. His appetite was good and his bowels had moved once during the preceding day. He stated that the movement was formed, but dark in color. He had had no pain or discomfort at any time, and asked me if he could not go to work on the following day.

A general examination revealed nothing new. The temperature was 98.1, the pulse 95. He looked anemic and anxious. The purpuric spots on the body had not increased to any noticeable extent. The bleeding from the mouth and gums was more pronounced than on the previous day, many of the small vesicles having broken down, disclosing bleeding points. There was no sign of joint or intestinal involvement. What little stiffness he had noticed on the previous day had disappeared. Hemoglobin was 70 per cent. No blood count was made. Urine was negative.

I injected one 10-c.c. tube of antidiphtheric serum as advised by Goldstein (*Laryngoscope*, 1914, xxiv, 1). I directed the patient to remain quiet in bed and to continue with the calcium chlorid.

The following morning he telephoned me that he felt weak and had a headache. An hour later I found him in bed. The pillow and bedclothing were saturated with blood, and he had vomited about a quart of bright red blood. He was in a semiconscious condition, extremely anemic and the picture of hemorrhagic shock. The temperature was 96, the pulse 90. The abdomen was retracted and rigid. There was no sign of hemorrhage from the bowels, but he was bleeding profusely from the nose and mouth. About one hour before he had been up and about the house. He had complained to the family of nothing except that he felt weak and had a headache.

I injected another tube of antidiphtheric serum, 10 c.c. Heat was applied externally, and morphin and atropin hypodermically. Shortly afterward he vomited again about a quart of bright red blood. He rapidly passed into deep coma and died in about an hour. Postmortem was not allowed.

The interesting features in this case are:

1. The sudden onset, with no previous history of hemorrhagic tendency up to four days before onset.
2. The lack of any ascertainable causative factor.
3. The absolute lack of fever at any time during the course of the disease.
4. Save for a slight stiffness in the knees, the absence of joint involvement at any time.
5. The lack of any intestinal symptoms, as diarrhea, pain or abdominal tenderness.
6. The absence of pain or discomfort at any time, and the ability of the patient to be about until two hours before his death.

Tuberculosis.—Great and grave as the problem may appear, there is certainly hope when we recall the fact that the death rate from tuberculosis has apparently been reduced from 326 per 100,000 in 1880 to 147.6 in 1913.—George M. Kober, M.D., *Public Health Reports*, Oct. 29, 1915.

New Instruments and Suggestions

TECHNIC FOR MAKING THE SUPRAPUBIC "STAB WOUND"

Francis Reder, M D, St Louis

The suprapubic "stab wound" is one of the most efficient and most satisfactory methods of draining the abdominal cavity Such drainage is imperatively indicated in septic conditions with their concomitant pus accumulations Patients who are to be subjected to an operative measure for the relief of a septic peritonitis are usually very ill, and consequently poor operative risks The surgeon keenly appreciates every minute of the time his patient is on the operating table

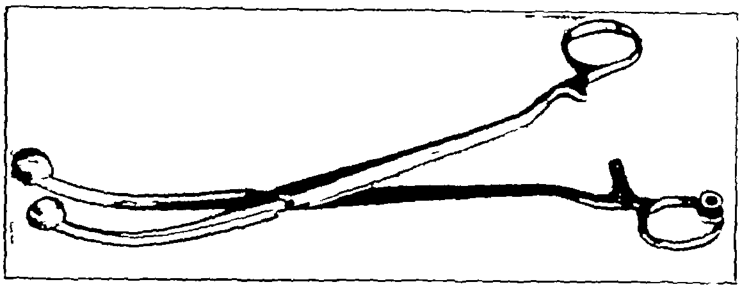


Fig 1 —Ball end forceps open

A suprapubic stab should be clean-cut, injury to any underlying viscus must not occur The peeling off of the parietal peritoneum from the abdominal wall during the attempt to penetrate it must be avoided Such traumatism creates an additional absorption area Lastly the directing finger of the operator which is usually introduced into the abdominal cavity to "see" that no important viscus is concealed at the point of the stab and to steady the tissues where the point of the knife is to penetrate must not be pricked, lest an infection result

To facilitate the establishing of a suprapubic stab wound and to obviate any danger of the operator pricking his directing finger during its performance, a heavy forceps of good length—a pedicle forceps about 12 inches in length has answered the purpose admirably—that it may be readily manipulated with a firm grasp and having a ball of soft metal the size of an ordinary marble fused at the end, has proved a satisfactory aid With it the "stab wound" can be made quickly and without danger to any viscus

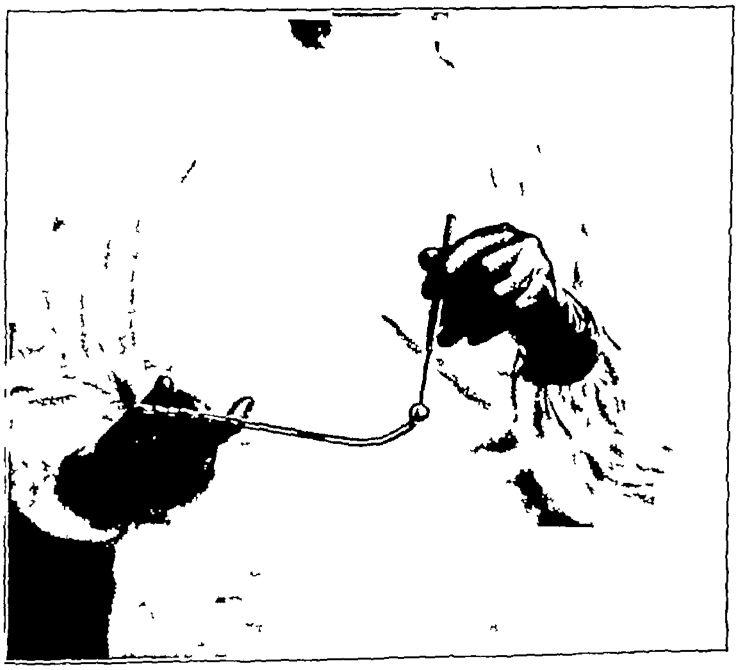


Fig 2 —Showing point of knife caught in ball end of forceps, a convenient method of enlarging the stab wound

The technic is simple Introducing the forceps through the abdominal wound into the abdomen, the ball-end of the forceps is firmly pressed against the point of the abdominal wall where the suprapubic "stab wound" is to be placed With a knife, an incision is made down on the ball end of the forceps The incision should be sufficiently large to accommodate the drainage tube As soon as the peritoneum is reached, pressure upward with the forceps will force the ball-end, covered with the peritoneum, into the incision The peritoneum is easily incised on the ball, and the stab wound is made The ball-end of the forceps is now gently pressed into the wound, and the blades of the forceps are spread sufficiently far apart to allow the ball-end to grasp the drainage tube In this manner the drainage tube can be easily drawn into the abdominal cavity

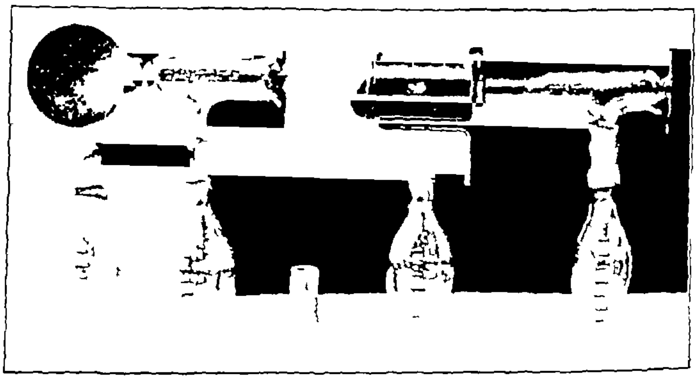
Should the stab wound prove too small it can without difficulty be enlarged by having the ball-end of the forceps while in situ, catch the point of the knife, and with a gentle sawing motion safely and readily create a wound of any desired size

---

AN IMPROVED BREAST-MILK COLLECTOR

Julius H Hess, M D, Chicago

This milk collector has been devised for use by wetnurses and mothers who have to feed premature and debilitated infants who are too weak to nurse at the breast



Improved breast milk collector

The collector is of great value for use when the nurse is unable to express the milk by hand, which is not infrequently the case in private practice

The pump is made in two types, the first fitted with a large rubber bulb of a size considerably larger and of better quality than is ordinarily sold with a breast pump, and second, with an attachment to which the Holz vacuum pump can be fitted In place of the ordinary collecting bulb at the lower surface, an arm is so constructed as to allow the milk to drain into it and pass directly into specially designed graduated 2-ounce milk flasks The neck of these flasks is of the proper size to take the ordinary nursing nipple The lower half of the pump drain is made to fit on the inside of the nursing bottles, and an air tight contact is produced by a heavy piece of rubber tubing which is first slipped over the neck of the bottle and then pushed up over the pump drain until the small flange in the center of the latter rests on the neck of the bottle This flange and one at the rim of the bottle's neck allow a good firm contact between the pump and the nursing bottle, so that there is no danger of the bottle falling away from the pump

ADVANTAGES

Any number of bottles can be purchased with a single pump, and individual feedings can be collected and set aside for future use, in required amounts The milk passes directly from the pump into the flasks without reaching the air and coming into contact only with glass surfaces which are so constructed as to allow of easy cleansing

The apparatus can be obtained from Sharp and Smith 155 North Michigan Avenue, Chicago

5514 Indiana Avenue

BOBBIN NEEDLE FORCEPS AND RETENTION CANNULA

J Sherman Wight, B S, M D, Brooklyn

The bobbin needle forceps (Fig 1) is designed for ligating or suturing down in a narrow cavity where it is difficult to pass a needle or use a carrier The illustration shows the bobbin in position threaded and in the left hand jaw On closing the jaws the bobbin passes through the opening in the opposite jaw The sliding lock on this jaw which moves up and down and has the ring attached is raised until it catches the bobbin by its arrow head On opening the jaws the bobbin remains in the right hand jaw and leaves the left hand jaw as shown in the dotted figure in which the thread is seen passing around the artery The bobbin is withdrawn with the forceps and is then released by drawing back the sliding catch The suture may be tied or the bobbin may be replaced in its receptacle in the left hand jaw and again passed around the tissues as a continuous suture

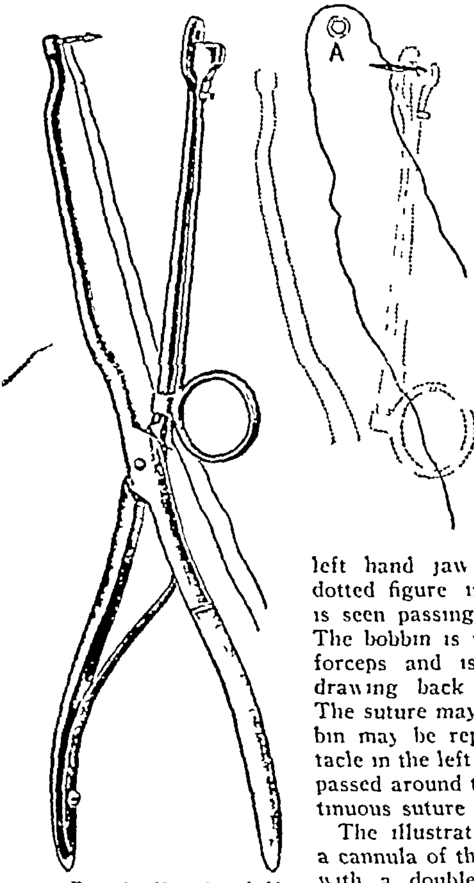


Fig 1—Wight bobbin needle forceps

The illustration (Fig 2) shows a cannula of the Kaliski type fitted with a double spring steel wire running from the top center of the shield, *K* and ending in two sharp hooks curved backward and straddling the cannula at *A* where it enters in the vein, *V* and prevents the withdrawal of the needle

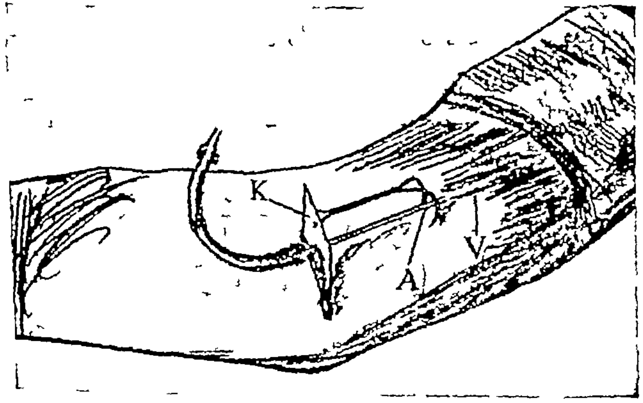


Fig 2—Wight retention cannula

30 Schermerhorn Street

Available Resources—It is true that the resources of medical knowledge are not as yet fully available for the public weal This is, however, in no sense a reproach to the medical profession but is distinctly a defect of social organization—Henry B Favill, *Pennsylvania Medical Journal* November, 1915

Therapeutics

PEDICULOSIS

This troublesome condition has long been treated by applications of kerosene oil The best method of using kerosene oil on the head is perhaps that of Sobel, of New York His method is outlined in The Journal, Dec 19, 1914, p 2229

A more recent method of eradicating lice, first recommended by Sabouraud,[1] is the use of xylene Xylene (xylol of dimethylbenzine) is a colorless liquid coal-tar product It has a penetrating but not unpleasant odor, and mixes with alcohol and ether, but not with water It is a strong parasiticide, will rapidly destroy lice, and will penetrate their ova and destroy them When undiluted, it causes a sharp, burning sensation when applied to the skin, but the pain which it thus causes does not last long, and it does not seem to blister or cause dermatitis It evaporates when exposed to the air or when applied on the surface of the body, and is highly inflammable, consequently it should not be used near a fire, or in the evening if the artificial light is other than electric

Although, as stated, xylene may be used in certain places in certain instances in full strength, it is better to apply it in combination, and a mixture of equal parts of xylene, alcohol and ether is recommended by Faniel[2] as safe and efficient

For the removal of lice from the head, cotton is soaked in this mixture and the scalp is thoroughly gone over with this cotton sponge, and all the strands of the hair are drawn through the sponge Generally with one application, and certainly with two applications of this treatment, all the parasites and nits are destroyed The disease may be cured in half an hour, even when the hair is long, as in women and girls

If scratching has caused eczema and scabs on the scalp, these may be softened by the application of petrolatum, and the scabs may be removed later On these excoriated places the mixture of xylene mentioned above is too strong treatment, and Lane[3] recommends in these cases the following

		Gm or c c
℞	Xylene	4
	Petrolatum	30

M Sig Use externally as directed

The day after this ointment is applied to the scalp it may be washed off, and the strands of the hair treated with the mixture of xylene, alcohol and ether, and then it may be well to apply this ointment once more As a final treatment of the pediculosis capitis a fine-tooth comb may be run through the hair and the nits thus removed for cosmetic purposes, although the ova have been killed

In pediculosis of the pubis or axillae the same mixture of xylene, alcohol and ether should be used, and by the same method It is well, however, to precede the treatment by a warm, cleansing bath, and to follow the treatment by another bath On the scrotum and vulva and in the deep axillae the xylene mixture is rather painful for a short time, and should be applied gently and with care, but the burning will last but a few hours If there are excoriated places on the skin in these regions, the ointment recommended by Lane should be used in place of the xylene solution

---

[1] Sabouraud Entretiens Dermatologiques Paris 1913 pp 315 419
[2] Faniel Presse med July 22 1915 p 268
[3] Lane New York Med Jour Oct 16 1915 p 804

CONVULSIONS OF YOUNG CHILDREN

As an etiologic, predisposing factor in convulsions of young children, a neurotic or an epileptic history or a mentally unbalanced state in the parents is common Children with rickets seem predisposed to convulsions These convulsions in rickets may be due to impaired nutrition, to imperfect food, or to an insufficiency of the parathyroid glands The relationship of the thymus to rickets has not been positively determined and it has not been shown that any disturbance of the parathyroids is present in rickets In rickets, however, there is an insufficiency of normal calcium metabolism, and the thymus gland apparently has something to do with the perfection of this metabolism in childhood It has long been demonstrated that in insufficiency of the parathyroids convulsions may occur, and that the administration of calcium will prevent these convulsions

The convulsions in young children may be divided into (1) Those due to cerebral irritation (spasmophilic), (2) those due to cerebral inflammation, (3) those due to acute cerebral congestion or to severe toxemia, and (4) epileptic

1 The spasmophilic type is the most frequent, and may occur as a complication of any condition or disease Irritation due to the eruption of the teeth is a rare cause of convulsions, unless there is some other etiologic factor present Worms do not frequently cause convulsions, unless sufficient alimentary disturbance occurs simultaneously

Infants with this type of convulsions often have been artificially fed Gastro-intestinal disturbances are the most frequent exciting cause of convulsions in children If meningismus to the extent of convulsions occurs at the beginning of, or during, some acute disease, it still may represent an irritation of the cerebrum from improper food or from improper care of the bowels, or from bad general hygiene, as bad air, insufficient bathing, skin irritations, or other general causes In other words, convulsions rarely occur in the beginning of the exanthems in normal children Probably a mild acidosis may be an underlying cause, especially if the child has been vomiting and has not had sufficient carbohydrate nutrition for a number of hours

Spasmophilic convulsions may be recognized by increase of all reflex irritability, restlessness and sleeplessness If a test is made, there will be found to be also an increase of electric irritability

Some spasmophilic children may have convulsions with very mild exciting causes, as an acute indigestion, or the beginning of one of the exanthems, or with the high fever of a tonsillitis or a bronchitis Later in life these individuals are likely to have high fever with the least infection, and may be delirious with any high temperature They are likely to be neurotic, high strung, irritable, and to display temper as children A breast-fed baby is often immune against such spasmophilic attacks This emphasizes the importance of the absorption of toxins or irritants from the intestines as an exciting factor in spasmophilic convulsions The most frequent age at which these convulsions occur is the age when an artificially fed infant is most likely to have gastro-intestinal disturbance, namely, from about the third month to about the end of the second year Of course they may occur at any age thereafter

After a spasmophilic convulsion the patient does not sleep as he does after an epileptic convulsion, and the spasmophilic patient may have what has been termed spasmodic croup, or laryngospasm This laryngeal tetanic condition may be sufficiently prolonged to cause death

True epileptic attacks may begin in infancy, and even in very young infants The diagnosis may be made by the fact that spasmophilia rarely occurs in infants under 3 months of age, that contractions of the face and spasm of the larynx do not occur in epilepsy, and that increased electric excitability is a sign of spasmophilia Also, as just stated, after a spasmophilic attack the patient generally does not sleep Spasmophilic convulsions are likely to be multiple in number, while in the young child the epileptic convulsion is generally single, with longer or shorter periods of complete freedom from convulsions

The treatment of spasmophilic convulsions is purgation, unless the child has already had a severe diarrhea Breast milk should be given if possible, if the patient is an infant, otherwise, the food should be starchy, as barley water or thin oatmeal gruel Some alkali, as potassium citrate, is advisable, such as

		gm or c c	
℞	Potassii citratis	2	gr xxxvi
	Aquae menthae piperitae	100	fl℥ iv

M Sig A teaspoonful, in water, every three hours

Lime water should be given in teaspoonful doses five times a day As stated above, it is quite probable that the parathyroids are disturbed in all cases of spasmophilia, and calcium is a sedative to these glands as well as to the nervous system

If a mild sedative is deemed advisable, bromid may be given, best as sodium bromid, about 065 gm (1 grain) for every year of the child's age, best given in plain water and repeated every two hours until the child is asleep, then the drug should be stopped altogether, if possible In severer cases bromid is not successful, even in large doses, and chloral must be given, better by rectum, perhaps 0 13 gm (2 grains) in an ounce of warm water and repeated in four hours, if needed This dosage is for a child from 1 to 2 years of age

The convulsions may be so severe and so frequent as to endanger the life of the patient, hence in such cases the treatment must be rapid and strenuous Chloroform inhalations may be life-saving, and if convulsions recur as soon as the anesthesia is over (often primary anesthesia is all sufficient), it may be necessary to give opium in some form A hypodermic injection of a small dose of morphin, depending on the age of the child, may be given At the same time it should be remembered that morphin may act excessively in young children

The quieting effect of a tepid bath or of warm sponging must not be forgotten If the child is exhausted it may be revived by stimulating the respiration by ice cold ablutions to the chest and abdomen

2 Convulsions due to inflammations of the meninges or to localized abscesses are much more frequent in children than in adults First, the ears should be carefully examined, as an abscess of the middle ear may not have been suspected, and may be the cause of the condition Trouble in the ears or mastoid being eliminated, spinal puncture should be done and a careful examination made of the fluid withdrawn

The treatment of convulsions from some cerebral tangible cause is that of the disease found Warm baths and bromids, and an ice cap to the head may alleviate the cerebral irritation

3 That young children often have one or more convulsions in the first stage of an acute infection is a fact, but such convulsions are not so frequent as many textbooks would lead one to suppose Such convulsions are often perhaps due to an exaggerated anaphylactic reaction caused by the toxins of the infecting germ Or in a patient who has inherited a neurotic tendency and is of spasmophilic type, sufficient cerebral congestion may be caused by a severe introductory chill to produce a convulsion Many times however, it is associated intestinal indigestion and the absorption of toxins from the intestine that cause the convulsion

The treatment is simply cool or tepid sponging to lower the temperature which is generally developed by the time the child is seen, and a small dose of some antipyretic, as acetanilid, perhaps 0015 gm (one-fourth grain) to a child 4 years old, every two hours for four doses

Terminal convulsions in severe illness represent serious toxemia, and can be combated only by treatment aimed at the general condition present, namely, to reduce very high temperature, to stop excessive pain (often forgotten in a child), to relieve intestinal stasis, to brace a failing heart to prevent collapse, if possible, and to combat uremia, if present etc

4 It should be remembered that true epilepsy may begin in infancy, consequently, if a child has an occasional convulsion and no acute inflammatory cause can be found, and especially if it is decided to be a true epileptic convulsion, every reflex irritant cause must be looked for and removed, if possible There may be several factors causing epilepsy A family history of epilepsy, chorea, alcoholism and mental disturbances, or instances in the family of mental defect will aid in the presumptive diagnosis that the child is beginning the disease of epilepsy While the first sign of a true epilepsy may be a distinct convulsion, many times, especially in older children, the disease is preceded by a series of fainting spells or other petit mal attacks

A possible recurrent acidosis must be considered, hence the diet of a young child should be so modified as to supply plenty of carbohydrates, and it may be wise to give alkalies for a prolonged period In increasing systemic alkalinity, however, it must be remembered that too much alkali may allow inflammations of the skin and bladder irritability

The mouth, nose, throat and genitalia must all be proved normal or else must be under suspicion as irritating causes of the convulsions Headaches must, of course, be explained or seriously considered, if there is a history of such Because there has been an injury, or because some slight depression on the skull is found, it does not follow that such is the cause of the epileptic attack A careful study of the part of the body in which the convulsion begins will often show the motor center that is in trouble, and may give the indication for operative interference

On the other hand, Clark[1] has shown that in many cases the first movements of an epileptic attack are caused by some move to get near the mother or away from some feared object when frightened An epileptic child should be carefully studied at home or in a hospital to obtain data that will suggest the proper treatment A child with epilepsy who is neglected will generally become an incurable epileptic A child with epilepsy who is loaded with bromids for a considerable period deteriorates mentally as well as physically

---

[1] Clark New York Med Jour Feb 27 1915

New and Nonofficial Remedies

The following additional articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association Their acceptance has been based largely on evidence supplied by the manufacturer or his agent and in part on investigation made by or under the direction of the Council Criticisms and corrections are asked for to aid in the revision of the matter before publication in the book 'New and Nonofficial Remedies"

The Council desires physicians to understand that the acceptance of an article does not necessarily mean a recommendation, but that so far as known it complies with the rules adopted by the Council

W A Puckner, Secretary

DIMAZON — Diacetylaminoazotoluene — $CH_3C_6H_4N$ N $C_6H_3(CH_3)N(CH_3CO)_2$

Actions and Uses—Dimazon is claimed to have a marked power of stimulating the proliferation of epithelial cells It is said to be useful to promote the growth of epithelium in the treatment of burns, wounds, chronic ulcers, etc The claim is made that Dimazon may be used with benefit also in indolent varicose ulcers ulcerating syphilides, tuberculous and diabetic ulcers and eczema of all types The evidence for these claims needs further confirmation

Dosage—Dimazon is generally used in the form of a 2 per cent ointment made with petrolatum as a base (see below) It is also used dissolved in a fatty oil or mixed with talcum as a dusting powder (see below) It is stated that the preparation does not stain and that it may be removed from linen by the use of soap and water

Manufactured by Kalle and Co Aktiengesellschaft Biebrich a Rh Germany (Heilkraft Medical Co Boston Mass) U S patent applied for U S trademark No 89 119

Dimazon Oil—It is composed of Dimazon 2 parts and olive oil 98 parts Prepared by the Heilkraft Medical Company Boston

Dimazon Ointment—It is composed of Dimazon 2 parts and petrolatum 98 parts Prepared by the Heilkraft Medical Company Boston

Dimazon Powder—It is composed of Dimazon 5 parts and talcum 95 parts Prepared by the Heilkraft Medical Company Boston

Dimazon is prepared by the acetylization of amidoazotoluene It is an orange colored crystalline powder, insoluble in water but readily soluble in alcohol ether chloroform, acetone and benzene, oils fats and petrolatum It can be removed from cloth by washing with soap and water It melts at 75 C

When hydrolyzed with a dilute alcoholic solution of sodium hydroxide dimazon loses an acetyl group with formation of the insoluble monoacetylamidoazotoluene which has a melting point at 186 C Prolonged treatment with an alcoholic alkali solution results in loss of the second acetyl group with formation of amidoazotoluene melting point 100 C

Treated with fuming hydrochloric acid dimazon yields monoacetyl azotoluol which is precipitated on dilution with water Prolonged heating with the acid forms amidoazotoluene and eventually the hydrochloride of the latter

If dimazon be boiled with alcohol for a long time an acetyl group is removed with formation of ethyl acetate which may be recognized by its odor

ICHTHALBIN (see N N R 1915 p 151)—The following dosage form has been accepted

Ichthalbin Tablets 5 gr—Each tablet contains ichthalbin 5 grains Prepared by Knoll and Co Ludwigshafen a/Rh Germany and New York (Merck and Co New York)

TRIFERRIN (see N N R 1915 p 167)—The following dosage form has been accepted

Triferrin Tablets 5 gr—Each tablet contains triferrin 5 grains Prepared by Knoll and Co Ludwigshafen a/Rh Germany and New York (Merck and Co New York)

BETANAPHTHOL BENZOATE-ROCHE—A non-proprietary brand complying with the standards for betanaphthol benzoate (see N N R 1915 p 210)

Manufactured by F Hoffmann LaRoche and Co Basel Switzerland (The Hoffmann LaRoche Chemical Works New York)

BETAIN HYDROCHLORIDE-ROCHE—A non-proprietary brand complying with the standards for betain hydrochloride (see N N R 1915 p 145)

Manufactured by F Hoffmann LaRoche and Co Basel Switzerland (The Hoffmann LaRoche Chemical Works New York)

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION

535 North Dearborn Street Chicago, Ill

Cable Address "Medic, Chicago"

Subscription price Five dollars per annum in advance

Contributors, subscribers and readers will find important information on the second advertising page following the reading matter

SATURDAY, JANUARY 22, 1916

BACTERIA OF LYMPHATIC GLANDS

Considerable interest has been manifested of late in the bacterial flora of the lymphatic glands In some cases, notably in Hodgkin's disease, a pleomorphic diphtheroid bacillus has been isolated with sufficient frequency to permit the suggestion that this organism may bear some specific relation to the disease This view was further fostered by Bunting and Yates, who first emphasized the suggested etiologic relationships in Hodgkin's disease, when they succeeded, after injections of cultures of their isolated organisms into monkeys, in developing a chronic progressive lymphadenitis bearing some resemblance to the original disease in man[1] They also were able to produce a progressive general glandular enlargement, with fever and leukocytosis, leading to the death of animals from which the diphtheroid bacillus could be recovered in pure culture[2]

Subsequent investigators have also found comparable micro-organisms in the lymphatic glands, but the problem of the causal relationships has been complicated, on the one hand, by the fact that a variety of bacteria can frequently be cultivated from the lymph nodes In cases of Hodgkin's disease, for example, the diphtheroid organism has been reported to be associated frequently with staphylococci On the other hand, all of these types of organisms appear to invade the tissues in a variety of disorders which are by no means synonymous with Hodgkin's disease[3]

As the result of an attempt to classify the bacteria obtained from lymph glands, Bloomfield,[4] of the Medical Clinic of the Johns Hopkins Hospital, has come to the conclusion that extreme conservatism should be maintained in attributing to any micro-organism an etiologic rôle in relation to specific diseases involving the glands He agrees with previous workers in noting that organisms can frequently be cultivated *intra vitam* from lymphatic glands It has long been known that the regional lymphatic glands can filter out bacteria from an infected area, and it has been shown conclusively with reference to numerous organisms by simultaneously cultivating them from the two situations More generalized invasion of glands in the agonal and postagonal states is, as Bloomfield reminds us, also a matter of common experience In certain specific diseases, furthermore, the causal organisms may be present in the glands in association with the characteristic changes, notably in tuberculosis

Bloomfield has found that a considerable number of organisms seem to be parasitic but nonpathogenic in relation to the lymphatic glands Perhaps certain types of gland lesions predispose the glands to invasion by furnishing a suitable soil for the bacteria In any event, saprophytic organisms identical with or closely allied to surface flora of the body are frequently filtered out, or, perhaps, constitute a more or less permanent flora of lymph glands Organisms are frequently isolated which seem by their biologic characteristics to be suited to live in relatively avascular areas, and which may tend to invade diseased glands, although they are not limited to them In Bloomfield's experience there is a higher proportion of successful cultures from definitely diseased glands than from those approaching a normal condition

None of the twenty-nine strains of micro-organisms isolated by Bloomfield could be shown to be the cause of specific disease Nevertheless the recurring reports of finding diphtheroid organisms in diseased lymph glands from time to time will not allow the suspicion that such occurrence is something more than merely fortuitous to die out Very recently Bunting and Yates[5] have reported the isolation of a diphtheroid bacillus in a case of chronic lymphatic leukemia and a case of acute lymphosarcoma (or pseudoleukemia) These investigators emphasize the necessity of still further research in this field by the comment that the etiologic relationship of this much discussed diphtheroid organism to the diseases mentioned must perhaps remain for a time *sub judice* Admitting that the occurrence of similar organisms in a variety of diseases would certainly seem to be an argument against their etiologic importance, they maintain that in their experience this type of organism is found with readiness only in one general group of apparently related diseases and in these without fail, when the technic employed is adequate In this group Bunting and Yates include Hodgkin s disease lymphogenous leukemias, the pseudoleukemias (lymphosarcoma), Banti's disease and probably also mycosis fungoides Outside of this group, they add, if the organism is found, there is also some histologic evidence of its activity

---

[1] Bunting, C H, and Yates, J L An Etiologic Study of Hodgkin's Disease, The Journal A M A, Nov 15, 1913, p 1803

[2] Bunting, C H, and Yates, J L An Etiologic Study of Hodgkin's Disease, Second Note, The Journal A M A, Feb 14, 1914, p 516

[3] Billings, Frank, and Rosenow, E C The Etiology and Vaccine Treatment of Hodgkin's Disease, The Journal A M A, Dec 13, 1913, p 2122 Rosenow, E C The Newer Bacteriology of Various Infections as Determined by Special Methods, The Journal A M A, Sept 12, 1914, p 903 Lanford, J A Am Jour Trop Dis and Prev Med, 1914, ii, 191 Steele A E Boston Med and Surg Jour, 1914, clxx 123 Rhea, L J, and Falconer, E H A Report of the Bacteriologic Examination of Enlarged Lymph Nodes Removed from a Patient with Hodgkin's Disease, Arch Int Med, March, 1915, p 438

[4] Bloomfield, A. L. The Bacterial Flora of Lymphatic Glands, Arch Int Med, August, 1915, p 197

[5] Bunting, C H, and Yates, J L Bacteriological Results in Chronic Leukaemia and in Pseudoleukaemia, Bull Johns Hopk Hosp, 1915, xxvi 376

A MEDICOLEGAL STUDY OF BLOOD STAINS

A question, not only of great theoretical but also of important medicolegal and practical interest, is the determination of the origin of blood stains on various articles Chemical biologic and immunologic research have been called on to aid in this study Sutherland[1] has recently reported the results of the examination of 6,566 articles suspected of being blood-stained in relation to 2,643 medicolegal cases The question at issue in 1,650 of these cases was murder, in 284 assault, in 189, rape, and in other cases the questions involved practically every aspect of human life The articles examined included the various body discharges —saliva, urine, feces, etc —and virtually every form of animate and inanimate material The determinations showed that various stains were due to the blood of such animals as the sheep, goat, ox, buffalo, dog, horse and pig, and various combinations

The stains on 6,566 articles were examined, and 1,380 were found not due to blood One aspect of the question associated particularly with local conditions in India concerns the fact that 632 specimens of earth were sent for examination, of which 467 were blood-stained The floors of most dwellings in India are composed of rammed earth, and as no rain falls over large tracts for many months at a time, the blood which is spilled outdoors is likely to remain and not be washed away Of the 467 blood-stained specimens of earth, no opinion could be given as to the source in fifty-six specimens, because of the rapidity with which the elements of the blood are disintegrated by bacteria in the soil Of 3,254 articles of stained clothing, 552 were not blood-stained In 295 cases no opinion could be given as to the source of the blood found on the garments, owing to the fact that the clothing had been repeatedly washed

The process of examination included the inspection of articles by daylight and artificial light, microscopic study of special specimens of the stain for the observation of possible undamaged erythrocytes, a spectroscopic study for the observation of bands due to blood constituents, and immunologic reactions to determine, if possible, the animal from which the specimen originated The following is in brief the technic of the immunologic study Antiserums are prepared by injecting a fowl with the serum of man or a domestic animal Extracts of the stains are made with normal salt solution The stain extracts are diluted so as to approach as nearly as possible the 1 1,000 dilution of normal serum The diluted extracts are placed in tubes, down the side of which are allowed to run two drops of the antiserum The first antiserum to be employed is an antihuman one The tube contents are then viewed from time to time, and if a zone of reaction is seen in any one of them within twenty minutes, that tube's content is noted as "positive" human The same procedure is carried out with antiovin, antihircin and other antiserums

Numerous cases are described by Sutherland as illustrative of the great difficulty in obtaining the truth from witnesses as to the source of various specimens These results are a further evidence of the practical, almost vital importance of some of the more highly technical researches of modern medicine

THE TECHNIC OF ORAL HYGIENE

"Dentistry, which is a highly specialized branch of surgery, should use the two factors, asepsis and anesthesia, which have made possible the wonders of modern surgery, with skill and precision equal to that of surgeons" This is the theme emphasized by Hasseltine[1] of the U S Public Health Service as the result of an investigation, undertaken at the request of prominent dentists, to work out a detailed method for sterilizing dental instruments and appliances, keeping in mind the important factors simplicity, efficiency, and duration of the process of sterilization Any one trained in modern methods of asepsis who has watched the technic at present employed in the usual routine of dental treatment will have observed the errors which are almost inevitably allowed to creep in, and the attendant possibility of bacterial contamination and transmission of infection from one patient to another The entire question of oral sepsis and mouth hygiene has been put into even greater prominence of late by the attention centered on the unexplored possibilities of infection through the mouth The situation has been analyzed by the statement that "from the standpoint of efficiency the modern mouth is out of adjustment with modern conditions — or, perhaps we should say, modern conditions are out of adjustment with it Notwithstanding the numerous bacteria that flourish within its portals, mouth secretions and the mucous membranes do not seem to have the protecting power which is often manifest in other regions of the body and which protects an animal in a state of nature"[2]

The danger from focal infections in which streptococci are present in the tonsils and about the teeth is becoming more widely appreciated now that the possibilities for harm in such chronic foci are being recognized on the basis of careful scientific investigation In referring to what may be called "internal streptococcal metastasis" attended by the localization of mouth streptococci in the interior of the body, it was pointed out recently[3] that the efforts now made to detect and then to obliterate all forms of focal infection in the mouth and throat as well as elsewhere in the body, for preventive as well as curative purposes, besides being in accord with sound reasoning from general principles, receive the support also of strong experimental evidence

---

[1] Sutherland Note on 2,643 Medicolegal Cases in which 6,566 Articles Suspected to be Blood Stained Were Examined India Jour Med Research 1915 iii 205

[1] Haseltine H E The Sterilization of Dental Instruments Bull 101 Hyg Lab U S P H S 1915 p 53

[2] How to Live New York Funk and Wagnalls 1915 p 78

As illustrations of the possibility of transmission of mouth organisms from one person to another through the medium of dental practices, Hasseltine[1] mentions the placing of sterilized instruments on a swinging tray or glass plate which has not been sterilized, the cleaning of burrs on a scratch wheel which has not been sterilized since the burrs used on the previous patient have been cleaned on it, and the frequent handling of the cable of the dental engine, which receives contamination from one patient through the operator's hands and in turn returns a portion of this contamination to the operator's hands when used on subsequent patients These familiar errors, as Hasseltine expresses it, emphasize the necessity of having everything which comes in contact with the instruments or hands of the operator free from organisms obtained from previous patients in order to prevent transmission of infection from one patient to another Every dentist or oral surgeon will find useful hints and practical suggestions in the outcome of the investigation of the Hygienic Laboratory[4] The recommendations for the sterilization of dental instruments point out that moist heat is our best disinfecting agent for the sterilization of all metal instruments For the destruction of nonspore-bearing bacteria, moist heat at 80 C (176 F) is nearly as efficient as boiling, and for practical purposes can be used in place of boiling Instruments constructed of metal, whose complicated mechanism has heretofore caused them to be considered as nonsterilizable, can be sterilized by moist heat, provided the water is removed from them by immersing in alcohol subsequent to sterilization Instruments whose construction does not permit of boiling can be sterilized by chemical disinfectants In the latter procedure, immersion in 5 per cent solution of phenol (carbolic acid) for at least sixty minutes is recommended, and in those cases in which the mechanical construction makes it difficult to remove excess of water, instruments can be placed in 95 per cent alcohol for a few minutes to remove water, and then allowed to dry

The courses of instruction in dental surgery of today are giving attention to the bacteriology of the subject and its relation to mouth hygiene as well as to general health It is, however, a distinct advantage to have the practical results of actual tests of sterilizing agents available for professional men who have little opportunity for personal experience in the laboratory work involved Hasseltine well remarks that the student usually forms the opinion that any sterilizing agent is effective, and does not learn to check his sterilization by bacteriologic tests For this reason he believes that in dental schools and clinics there is need for the giving of more practical instruction in the methods of sterilization, and the subsequent testing of these by bacteriologic methods

THE FORMULATION OF ANTIMALARIAL MEASURES

The varying complexity and unlike character of the problems raised in the control of the individual infectious diseases, as they manifest themselves in different parts of the world, offer one of the best arguments in favor of specially trained experts in the work of public health conservation The true cause of malaria is now known, and the mode of its transmission by certain species of mosquitoes is accepted as demonstrated Nevertheless the practical question of combating the disease from the standpoint of public hygiene rather than that of the cure of the infected individual presents a diversity of features which cannot be answered in the same way in all places Obviously the ideal of antimalarial sanitation would be to exterminate the pernicious insect that spreads the parasite of the disease, but this mode of prevention is beyond the bounds of even remote possibility in certain regions Here the most potent makeshift is to protect the individual by suitable methods of screening where this is possible Furthermore, where more permanent antimalarial means are impracticable, as in certain inaccessible malarious districts of the tropical jungle, quinin prophylaxis may be of some value Even here, in order to obtain satisfactory results, organized efforts must often be instituted to make quinin available at a low cost to the population to be protected

The malaria problem is one that seriously concerns the inhabitants of our insular possessions in the Far East, and it is interesting to note the manner in which it is being attacked The outlook for the possible success of any antimalarial work in the Philippines, as elsewhere, depends largely on a proper understanding of the local features of the mosquito problem It appears that the distribution of malaria in the islands, as indicated by thousands of examinations of the spleen or blood of schoolchildren by the American health officials, is by no means universal, but is most abundant in such regions as afford breeding places for two species of mosquitoes, *Anopheles febrifer* and

---

[3] The Localization of Streptococci editorial, The Journal A M A, Nov 13 1915 p 1732

[4] Applications for the publication referred to should be addressed to the Surgeon General, U S Public Health Service Washington, D C

Anopheles maculatus[1] There is probably no locality in the Philippines where *Anopheles rossi* does not breed at some season of the year, in most places plentifully Yet many such regions are apparently free from malaria, the newest survey, therefore, seems to confirm the conclusion of investigators in India that this species is responsible for little if any transmission of malaria

Inasmuch as the results obtained at the Bureau of Science in Manila indicate that the transmission of the disease is due to a species of mosquito of rather limited habitat, and that the distribution of malaria agrees, in general, with the distribution of *Anopheles febrifer*, antimalarial measures are accordingly to be based on the results of this mosquito survey and a knowledge of the habits of the species involved The contiguity of the breeding places of anophelines to inhabited places, the character of the surroundings, and other factors often indicate the remedial procedures to be employed A swamp cannot be attacked in the same way as a stream or shore line The chief carrier in the Philippines, *Anopheles febrifer*, is a stream breeder widely distributed Its distance of flight is "at least 170 paces" It is house-seeking and readily bites human beings Apparently the best single measure for relief in this situation is the destruction of the larvae in the breeding and lurking places of the stream breeders Even in the case of Philippine streams the use of larvicides appears to be practicable As a rule the breeding places do not occupy the whole margin of the brooks, but occur here and there where vegetation offers some protection The Philippine sanitary experts state that the cleaning out of such places is a far easier task than the clearing of the jungle Permanent good has already been accomplished in some places by clearing the stream bed so as to make it narrower and swifter, and thus do away with some of the pools and quieter water where the larvae breed The "ditch" or "canal" towns offer a more formidable difficulty The ditches are excellent breeding places for *Anopheles febrifer*, but they can be combated by eliminating the channels and seeking water from other sources

The foregoing review indicates how futile an antimalarial campaign is likely to be in any locality without a suitable biologic survey Successful work in this field calls for more than routine medical knowledge The health officer must not only be an expert in entomological disciplines, but should also have an appreciation of the requirements of sanitary engineering To the degree in which special training in public hygiene is encouraged, successful prosecution of its conservation work is likely to follow

---

[1] These conclusions as well as other facts here referred to are derived from the studies of Barber M A Raquel A. Guzman A and Rosa A P Malaria in the Philippine Islands II Philippine Jour Sc Sec. B Trop Med 1915 x 177 See also Walker and Barber Ibid 1914 ix 381

NEW FATS FOR HUMAN USE

The food fats which appear in commerce in an approximately pure state are closely similar to those which enter into our consideration of the food values of meats, milk and cereals, if not identical with them Hence, according to one expert on food products, there is no occasion to question the general wholesomeness and food value of such staple food fats as butter, oleomargarin, lard, olive oil and cottonseed oil, and we need only consider whether these are of equal value with each other and whether their liberal use is likely to make the total fat content of the diet excessive or the dietary one-sided in any way[1] In fact, the choice of fats of special origin in everyday use seems to depend more on questions of cost, flavor and texture than on any purely physiologic considerations Custom — perhaps we ought to add advertising — is not without influence in determining the sort of fats that are purchased in American households In cooking, fat is necessary as a medium for the saute and for deep fat frying The best fats for the latter purpose are considered by many culinary experts to be the vegetable oils which are liquid at ordinary temperatures, yet in some quarters these highly prized fats are rejected in favor of the animal varieties Even in the case of closely related fats of similar texture, local or inherited prejudices are hard to overcome This is seen in the current attitude toward cottonseed oil and olive oil The highest quality of refined cottonseed oil costs from a third to half as much as a medium grade olive oil, and has essentially the same food value, since both are practically pure fats

Of late there has been an extensive development of the production of "hydrogenated" oils on a commercial scale This involves the transformation of liquid glycerids of unsaturated fatty acids, such as olein, into the corresponding saturated compounds which are solids, with resultant thickening or hardening of the fat containing such glycerids Cottonseed oil is the material chiefly used in this country, and the "hydrogenation" is accomplished by heating with hydrogen in the presence of nickel as a catalytic agent, the process being carried to such a point as to yield a product of the appearance and consistency of lard[1] The catalytic mixture of nickel salts and infusorial earth (kieselguhr) is filtered out after hydrogen has been added to the desired point, and the hydrogenated fat is thoroughly deodorized

Both in Germany[2] and in this country,[3] investigations have already been instituted to ascertain the physiologic properties of these new products They have all shown that the investigated hydrogenated vegetable oils (from peanut oil, sesame oil and cotton oil) are digested and utilized quite as well as lard by normal men From this point of view the reports are satisfactory Owing to the method of preparation, the products hitherto marketed contain traces of nickel ranging to a maximum of 6 mg per kilogram, as far as the published reports have indicated Since the daily total of fat intake of all sorts almost always is below even half a kilogram, the question arises whether the traces of nickel thus ingested will be of noticeable detriment to the human organism This feature of the subject needs to be more rigorously controlled by long-continued feeding experiments before the final verdict can be rendered Perhaps improvements in the manufacturing technic involved will help to solve the problem by excluding even more satisfactorily the slightest occasion for uncertainty or criticism

---

[1] Sherman H C Food Products New York 1914 p 388

[2] Lehmann K B Chem Ztg 1914 xxxviii 798 Thoms H and Muller F Ueber die Verwendung geharteter Fette in der Nahrungsmittelindustrie Arch f Hyg 1915 lxxxiv 54 Süssmann P O Sind die geharteten Oele fur den menschlichen Genuss geeignet? Arch f Hyg 1915 lxxxiv 121

[3] Smith C. A. Miller R J and Hawk P B Gastro Intestinal Studies XI Studies on the Relative Digestibility and Utilization by the Human Body of Lard and Hydrogenated Vegetable Oil Jour Biol Chem 1915 xxiii 505

Current Comment

THE PITUITARY AND SUPRARENAL GLANDS IN EARLY LIFE

Although there is no direct vascular communication between the fetal and maternal circulations, the placenta functions as a fetal organ for respiration, nutrition and excretion Through the placental circulation the needs which the fetus has of a liberal supply of foodstuffs are satisfied Regarding the changes or the exact mechanism involved in the transference of the desired compounds in this indirect way from the maternal to the fetal blood in a form best adapted for the uses of the developing organism, little is known The essential fact is that oxygen and sources of energy are passed on through the epithelium covering the fetal villi which are immersed in the maternal blood On the other hand, there is more or less evidence that the fetus may in turn at times contribute chemical substances to the maternal circulation Marked changes are often exhibited in the physical and mental condition of the mother, and characteristic nutritional changes are not infrequently manifested Some of these have been attributed to a purely reflex or nervous origin, others have been assigned to a chemical cause arising through a sort of reversed placental exchange It is, of course, an attractive hypothesis to attribute metabolic and related changes in the organism to the so-called endocrine glands, or the structures exhibiting an "internal secretion" It is conceivable that some of the physiologic disturbances characteristic of pregnancy may be due to an overfunctioning of certain organs of internal secretion, such as the thyroid, pituitary or other glands, or even to a transference of comparable secretory products from the newly developed fetal organism over to the maternal circulation It has been contended that the added strain incident to pregnancy is evidenced in the mother s glandular system by such functional hyperplasias as the frequently observed hyperthyroidism or the altered facies indicative of a mild, transient acromegaly from hyperpituitarism Growth itself has been associated with the influence of the "ductless" glands Can these glands in the developing embryo have the function of stimulation? It is necessary, in answering this question, first to determine at what period of development the presence of the glandular secretions can be demonstrated in the fetus In an effort to establish the stage at which these glands commence the elaboration of their active principles, McCord[1] has examined the pituitary and suprarenal glands of bovine fetuses, from full term or as far back as the macroscopic recognition of the glands was possible Physiologic reactions characteristic of extracts of pituitary and suprarenal glands have been obtained from bovine fetal glands during all developmental stages in which the macroscopic recognition of the glands is possible For the pituitary gland, this period is from the eighth week to full term, for the suprarenals the period is from the sixth week to full term The presence of the active principles of these glands at so early a developmental period suggests that the fetus in utero may be under the influence of its own internal secreting glands as well as the maternal glands

COMPLEMENT FIXATION IN PULMONARY TUBERCULOSIS

It has been demonstrated that antibodies appear in the blood after injections of tuberculin, and Citron suggested that a similar process may take place in active tuberculosis, and that complement-binding bodies might be present in varying amounts This has been found to be true, and since Besredka worked out a suitable antigen, much work has been done on fixation of complement in tuberculosis A brief statement of the results obtained by Craig[2] may be of interest Craig prepared his antigen as follows Several strains of tubercle bacilli of the human variety were grown in alkaline broth to which was added 1 dram each of egg white and yolk per 250 c c After the growth was well advanced, an equal volume of 95 per cent alcohol was added, the mixture shaken for twelve hours and incubated at 37 C (98 6 F) for twenty-four hours, and then shaken six hours and filtered through a fine filter The filtrates of different strains were mixed and titrated for the anticomplementary, hemolytic and antigenic properties The antigen soon loses its properties unless kept in the cold The human hemolytic system was used, the technic in general being the same as for the Wassermann test The tubes were examined from one to two hours after the last incubation in order to avoid confusion on account of late laking occurring in tubes showing fixation of complement Craig made observations in 166 cases of pulmonary tuberculosis, grouped into three classes, the incipient, the moderately advanced, and the far advanced, each class being then divided into active and inactive groups The results show that of 25 incipient cases, 24 inactive gave a positive reaction in 58 3 per cent , the single active case giving a positive result, of 85 moderately advanced cases 32 inactive were positive in 68 7 per cent and 53 active in 96 2 per cent , of 56 far advanced cases, 3 inactive all gave positive results, and 53 active gave 96 2 per cent positive results Generally speaking, the strength of the reaction seemed to be in proportion to the amount of lung involved For control purposes, 100 healthy persons and 150 patients suffering from diseases other than tuberculosis were examined, all giving negative results with the exception of two syphilitics, in whom careful subsequent examination revealed a coincident tuberculosis In view of the uniformly negative results in healthy individuals and the positive results obtained in active tuberculosis, it appears that so long as the test continues positive in a given case, the patient cannot be considered cured although all clinical signs have disappeared A test which gives a positive reaction in 60 per cent of cases of incipient tuberculosis should prove to be a valuable aid in making an early diagnosis

---

[1] McCord C P The Occurrence of Pituitrin and Epinephrin in Fetal Pituitary and Suprarenal Glands, Jour Biol Chem 1915 xxiii 435

[2] Craig C F Am Jour Med Sc 1915 cl 781 abstr The Journal A M A, Dec 25 1915, p 2260

HYPERTRICHOSIS OF TRAUMATIC ORIGIN

In observing the convalescence of a large number of the wounded at one of the military hospitals in Paris, Gley and Loewy[1] have called attention to a phenomenon of considerable scientific interest which has been reported by others under somewhat different conditions They noted an exaggerated growth of hair and sometimes also of the nails, accompanying the repair of severe wounds involving the limbs and in particular the arms The hypertrichosis was observed not only in cases in which there were attendant nervous lesions, but also following injuries in which damage to the nervous tissue was absent or certainly not the conspicuous feature In comparing the forearms, for example, where one of them had been severely injured, decided increases in the number and size of the hairs are frequently observed in the neighborhood of the scars, so that the two forelimbs exhibit a marked contrast in appearance, and sometimes the growth of the hair crops out in locations on the skin where one would ordinarily expect only slight manifestations In the past, both clinical and experimental investigators of the nervous system have reported hypertrophies of this sort consequent on neuritic irritation Thus Dejerine[2] notes that the growth of hair may be accelerated, or atrophy and disappearance of hair may ensue in neuritis particularly in traumatic neuritis Paralysis of cutaneous nerves may result in the complete disappearance of hair[3] The association of the hypertrichosis observed in the military wounded with neuritic causes will not suffice to explain many of the instances observed, according to Gley and Loewy Hypertrichosis was observed, it is true, in many cases in which pain was a prominent symptom, but this was usually not of the neuritic type, being rather referred to the bony structures or to distention of the tissues Sometimes no pain whatever was reported The French investigators are therefore inclined to place these phenomena of localized hair growth in the same category as the recuperative growth of tissues following severe infections like typhoid fever They might be considered as a sort of localized convalescence phenomenon In such instances the prominent determinative factor is doubtless found in the formation of new blood vessels or in an exaggerated vascularity which brings about greatly improved local nutritive conditions by augmentation of the local circulation From this point of view, the better nutrition facilitated by better vascular conditions rather than trophic nervous influences communicated to the parts concerned, is the most likely explanation of a localized hypertrichosis of traumatic origin

IODIDS IN SYPHILIS

Attention was directed in a recent issue[1] to the apparent association of the enzyme-inhibiting power of the blood serum with lipoidal derivatives of unsaturated fatty acids Removal of these with lipoid solvents, such as chloroform or ether, destroys the antitryptic potency of serum, and gives any proteolytic enzyme present full play to digest the proteins present Furthermore, saturation of the desaturated fatty acid groups with iodin also destroys their antitryptic function Jobling and Petersen[2] believe that the foregoing facts, to which their own investigations at the Vanderbilt University, Medical Department, have contributed liberally, shed considerable light on the behavior of iodin and its salts in the body Their experience shows that iodids administered to human beings cause a very considerable reduction of the antitryptic activity of the blood Iodin medication is known to facilitate the absorption of necrotic material such as is found in the gummas This is interpreted by the assumption of a saturation of the ferment-inhibiting lipoid substance, so that the antienzymatic properties of the tissues are reduced and the removal of dead tissues by autolysis is permitted Large doses of iodids, it is suggested by Jobling, may cause the inactivation of the antiferments in localized areas or in the cell walls, with the consequent destruction of cells by the unrestrained ferments present and with the liberation of lipoids Herein may lie a toxic action of iodids If this hypothesis of the action of iodin remains tenable, it will help to explain the admitted fact that in syphilis iodids are not curative in the sense that they prevent a return of the lesions Success follows only the combination of iodids with some other form of treatment Probably they merely induce the resolution of the process, causing the disappearance of even large gummas by permitting autolysis The local action of enzymes is made less difficult by the reduction of the content of antienzymes in the circulating blood through saturation with iodin The infecting organisms are not destroyed but are free to produce similar lesions We are reminded that iodids are not as effective in the earlier stages of syphilis when necrosis of tissue is not so evident A good working hypothesis always is a great help in testing any therapeutic procedure Jobling and Petersen s view is summarized by them as follows Iodin neutralizes the action of the agents which prevent resolution and absorption of diseased or necrotic tissue in syphilis, and at the same time lays bare to the action of the real germicidal agent the infecting organism which previously had been protected by necrotic tissue With the exposure of the infecting organism, such agents as mercury and salvarsan would be much more effective

---

[1] Gley E. and Loewy R La croissance des phanères au cours de la réparation des plaies de guerre (hypertrichose d origine traumatique) Compt rend Soc de biol 1915 lxxviii 204

[2] Dejerine J Semiologie des affections du système nerveux Paris 1914 p 1097

[3] Compare Claude H and Chauvet St Semiologie reelle des sections totales des nerfs mixtes peripheriques Paris 1911 p 74

[1] The Antiferments of the Blood editorial The Journal A. M A Oct 30 1915 p 1554

[2] Jobling J W and Petersen W A Study of the Ferments and Antiferments of the Body and Their Relation to Certain Diseases Bul Johns Hopkins Hosp 1915 xxvi 362

Medical News

(Physicians will confer a favor by sending for this department items of news of more or less general interest, such as relate to society activities, new hospitals, education, public health, etc)

ARIZONA

Trachoma—According to figures of the United States Indian Service about 24 per cent of the Indians in Arizona are afflicted with trachoma The disease exists among the schoolchildren at Jerome, and has increased this year over last The local authorities have sought the cooperation of the State Board of Health and the National Committee for the Prevention of Blindness At Douglas systematic inspection and treatment of the pupils is wiping out the disease In 1914 there were seventy-eight cases, whereas only five are under treatment now, and only four new cases have been discovered this year

CALIFORNIA

New Marine Hospital—The erection of a new marine hospital at San Francisco, at a total limit of cost not exceeding $500,000, is provided for in a bill introduced into congress on January 4 The old hospital buildings will be demolished if this bill becomes a law

Revoked Certificates—California reports that licenses have been revoked from the following physicians on the dates given C V P Watson, June 15, 1914, H P Crocker, June 15, 1914, Charles R Baker, Dec 7, 1914, Gideon M Freeman, April 12, 1915, and A. L Hunt, June 16, 1915 Two licenses were reported to have been suspended That of R J Schirman suspended Jan 12, 1915, for six months and that of C B Putnam suspended April 12, 1915, for one year

Tuberculosis Experts to Meet—Tuberculosis experts of the state will meet in San Francisco, January 27, to discuss the many phases of the campaign Meetings have been arranged by the California and San Francisco Association for the Study and Prevention of Tuberculosis The day will be concluded with a dinner at which local speakers will express their views, including Dr Harry M Sherman, president of the State Medical Society, Rev F M Clampett and Rev Joseph McQuaide

Personal—Dr Samuel W Means has been appointed assistant medical director of the Metropolitan Life Insurance Company and assigned to duty at the Pacific Coast office in San Francisco——Dr Clarence H McDonnell has succeeded Dr Charles B Jones as county physician of Sacramento County——Dr Lloyd B Crow, Berkeley, who has been serving as surgeon in the French army, has returned to his home in Merced——Dr Philippe Alfred Gay, San Francisco, has been decorated with the Cross of War and recommended for the Legion of Honor on account of his bravery under fire on the battlefields of France

Popular Medical Lectures—Stanford University Medical School announces the following subjects for the thirty-fourth course of popular medical lectures which will be given in Lane Hall on alternate Friday evenings at 8 o'clock

January 14 Medical Research and Its Relation to General Medicine Dr George H Whipple, San Francisco, Director of the Hooper Foundation for Medical Research
January 28 The Economic Aspect of Disease Murray S Wildman, Ph D
February 11 Disease Carriers Dr Wilbur A Sawyer, Sacramento, Secretary, California State Board of Health
February 25 The Relation of Hospitals to the Community Dr George B Somers, San Francisco
March 10 Locomotion in Health and Disease Dr Walter F Schaller, San Francisco
March 24 Mental Hygiene Lillien J Martin, Ph D

ILLINOIS

Personal—Dr Paul M Miller, German Valley, is convalescent at his home after an attack of pleuropneumonia——Dr Edwin R Strong, Plainville, was thrown from his horse January 4, breaking his left leg below the knee

Illinois Pure Food Law Upheld—The supreme court of the United States has affirmed a decision of the supreme court of Illinois declaring constitutional the Illinois pure food and drugs act which prevents the sale of anything containing "any added poisonous or other added deleterious ingredient which may render such article injurious to health" Under this law boric acid was held to be unwholesome and injurious A dealer was convicted of selling a preservative for canned fruit and vegetables which contained boric acid He contended that the article sold was not a food and that it had not been proved unwholesome or injurious The state supreme court held that the law was broad enough to prohibit the sale of any preservative for food which contained boric acid The supreme court of the United States upheld this decision

Serum Blamed for Foot and Mouth Outbreak—In the governor's message to the assembly January 11, he mentioned the menace to the live stock interests by the infection of foot and mouth disease among cattle, sheep and swine, for which slaughter of the infected and exposed herds was performed and cleaning of disinfected premises The first outbreak of the disease, which affected 763 herds located in fifty-two counties, was between Nov 1, 1914, and May 8, 1915, at an approximate cost to the state of $1,211,232 This second outbreak on Aug 8, 1915, was unquestionably due, he says, to the sale, distribution and use of antihog-cholera serum contaminated with the virus of foot and mouth disease This outbreak has also been successfully controlled, though during its continuance it was necessary to slaughter 6 581 cattle, 811 sheep and 12,454 swine appraised at $593,634 32

Chicago

Tuberculosis Fight—The Chicago Tuberculosis Institute announces that from all indications it will have between $25 000 and $30,000 to spend in its war on tuberculosis during 1916, the largest sum ever collected for this purpose by the sale of Red Cross Christmas seals

Personal—Dr Edward Cunat was a member of the relief expedition for Montenegro on the Steamship *Italia* which was sunk in the Mediterranean recently He fortunately was saved after being three hours in the water——Dr Dean D Lewis gave an illustrated lecture on "Principles of the Transplantation of Tissue" in the amphitheater of the Cincinnati General Hospital, January 5

Deaths in 1915—According to the Bulletin of the Chicago School of Sanitary Instruction there were 34,730 deaths in Chicago in 1915 as compared with 33,932 in 1914 The natural increase and an increase of 800 in the population through annexation of territory make the death rate the same in both years 14 18 per thousand Omitting the 812 deaths due to the Eastland disaster, the death rate would be 13 85, which is said to equal the rate in 1904, the lowest ever recorded The deaths from pneumonia during the year were 23 per cent below the ten-year average, notwithstanding the increase in deaths from this cause during the latter part of the year Typhoid fever caused 133 deaths which is 55 per cent below the average of the decade Deaths from nephritis decreased over 14 per cent, but tuberculosis was higher in 1915 than in any year since 1910 Deaths from diarrheal diseases of infants under 2 years of age were said to have decreased over 19 per cent Scarlet fever decreased over 85 per cent, whooping cough 65 per cent, diphtheria, 16 per cent Measles showed an increase of 20 per cent, heart disease nearly 11 per cent and cancer 7 per cent

INDIANA

Wishard Recovered—Dr William N Wishard, Indianapolis who has been ill for some time at the Methodist Episcopal Hospital, has completely recovered

Physicians Building for South Bend—The new Crockett Building South Bend, which has just been completed, has been fitted up expressly for the use of physicians, seven of whom have secured accommodation therein

Cited to Appear Before Board—At the meeting of the State Board of Medical Examination and registration two physicians were asked to appear before it to show why their licenses should not be revoked namely Dr Elmer B Moser who practiced at Windfall and Dr Mary A Whery of Fort Wayne

New State Board—At the meeting for reorganization of the state medical board the following officers were elected Dr James M Dinnen Fort Wayne president Dr William A Spurgeon, Muncie, vice president Dr Moses S Canfield, Frankfort, treasurer, and Dr William T Gott, Crawfordsville, secretary

Needs of Methodist Episcopal Hospital—At a meeting of the board of trustees of the Methodist Episcopal Hospital in Indianapolis January 4, it was decided to raise $115 000 for the purposes of putting in a water and lighting system, adding one story to the main building and furnishing the north wing of the present building which has just been completed

Fake Advertiser Fined—Judge A B Anderson of the federal court Indianapolis is said to have fined Dr William H Dings Fort Wayne $300 and costs The defendant styled himself The Wayne Medical Specialist" and was charged with having used the United States mail with a scheme to defraud On being arraigned he pleaded not guilty but afterward changed his plea and was fined $300 and costs

Flower Mission Hospital—The Indianapolis Flower Mission is planning to build a hospital for tuberculous children The officers of the organization are proposing to establish an endowment fund for its maintenance About twenty-five tuberculous children are listed who should be in an institution where they might receive proper treatment for the disease Definite plans have not been announced but it is proposed to construct a building costing not less than $50,000

Physician Wins Suit—Dr Frederic W Mitchell, formerly of Valparaiso is said to have recovered judgment from the Fidelity and Casualty Company New York City, for injuries suffered when he was thrown from the upper berth of a sleeping car The policy called for the payment of $12 000 a year if totally disabled The company paid him for the first year and then stopped A court in Toronto where Dr Mitchell at present resides is said to have rendered judgment against the company for $19,150

Appellate Court Reverses Decision—Dr Arthur G Tullar was awarded a judgment of $362 22 against the town of New Carlisle by the St Joseph Circuit Court for medical services rendered persons suffering from smallpox in 1907 At that time Dr Tullar was secretary of the New Carlisle Board of Health and received a yearly salary of $850 The Indiana Appellate Court has reversed the decision, the text of the decision being as follows

> It is apparent that the secretary of the board of health in his official capacity owes high and important duties to the public His responsibilities not only involve the health and sanitary conditions of the citizens generally but in determining when it is necessary to act and the nature and extent of the measures to be employed he necessarily determines questions which reach and affect the public treasury When measures have been taken and treatment been given at the expense of the public he is charged with general supervision and must likewise determine when such measures or treatment may be discontinued
>
> Whenever a public officer enters into a contract the execution of which may make it possible for his personal interests to become antagonistic to his faithful discharge of public duties, such contract is held void on the ground that it is against public policy

IOWA

Personal—Dr Robert P Parriott Des Moines who has been ill at his home with influenza is reported to be improving ——Drs Ulysses G Grigsby and William P Mower, Perry have been reappointed local surgeons for the Chicago Milwaukee and St Paul System ——Dr Emmet E. Richards Hamburg was seriously injured by the overturning of his automobile near Grange Hall December 20

Chiropractors Indicted—Two chiropractors James F McGinnis and H R Timpe are reported to have been indicted January 7 by the Jackson County grand jury on charges of practicing medicine without a license It seems that Iowa has three colleges turning out "doctors" of chiropractic, but their graduates must go to other states having easy laws which permit them to secure the right to practice

New State Hospital Law in Operation—The first patient to be sent to the State University Hospital, Iowa City, under the law passed by the last legislature providing that children under 15 years of age whose parents are unable to pay for surgical aid may be sent to the State University Hospital, is the daughter of a teamster who goes to the hospital for a deformity of the right foot as the result of an attack of spinal tuberculosis

New Hospital Dedicated—St Joseph's Mercy Hospital, Mason City was formally dedicated, January 4, by Archbishop Keane of Dubuque The opening reception continued throughout January 4 and 5, and on the evening of the fourth there was a banquet for the out-of-town guests The building is four stories and basement in height, of fireproof construction and contains fifty-four private rooms and four wards besides the operating rooms, kitchen, nurses' apartments, etc and a chapel

Special Bulletin—A special bulletin of the Iowa State Board of Health is devoted to the interests of the registered nurses in Iowa It contains a schedule of the minimum requirements for nurses and training schools, and outlines of a preliminary three months' course and also the regular three-year course for the training of nurses in hospitals This is the course as found in the teaching hospitals of Iowa The bulletin as an inspiration to the candidates for the nurses' diploma gives a sketch with two illustrations of Florence Nightingale There is also a description of the principal infectious and contagious diseases information relating to quarantine and State Board of Health rules and regulations and much general information regarding the nursing profession The pamphlet is illustrated by numerous pictures from hospitals, a picture of a model county hospital as it has been built in Iowa, and a list of the graduate nurses holding certificates in Iowa with the name of the training school issuing the diploma This is a valuable and interesting pamphlet for the nurses of the state

MARYLAND

Plans Per Diem System for Maryland—An anticipated saving to the state ranging between $150 000 and $200,000 is calculated by the Board of State Aid and Charities as the result of the establishment of the proposed per diem system of pay for hospitals instead of the flat annual appropriations Serious opposition from the counties is anticipated The savings and economies to the state which are anticipated by the new schedule lie in the apportionment of 50 cents a patient a day on the counties participating An analysis of the records of the last decade indicates that county free patients participated in at least 300,000 hospital days in the year as an average

Phthisis Campaign Planned—The state-wide tuberculosis committee appointed in May, 1915, to study the problem of consumption in Maryland and to make recommendations for a definite state policy in regard to its most important phases held a meeting January 15 Dr John S Fulton presided and the subcommittee, composed of Drs Louis Hamman and Victor F Cullen and secretary, Robert C Powell made its report on the half year's investigation The report favored the establishment of county hospitals for negro tuberculous patients as the most effective and economical means of fighting the disease, such hospitals to be established in connection with the present county institutions also for the equipment of wards for negro tuberculous patients in the hospitals in Baltimore and eight other cities of the state receiving government aid It suggested that the cheapest investment the state could make in the prevention of the spread of the disease is the appropriation of $20 000 each to the hospitals in the eight cities and $50 000 to the Baltimore hospitals to construct these wards and the allowance of $1 a day for maintenance of each patient

MASSACHUSETTS

To Bar Substitutes—In its annual report the Massachusetts Board of Registration in Medicine calls attention to the absence of any provision in the practice act for punishing those who enter the licensing examinations as substitutes for others

New Maternity Building Dedicated—The Jennie M Robinson Maternity Building of the Massachusetts Homeopathic Hospital was dedicated January 1 The exercises consisted of addresses by the president of the trustees, Wallace Fullam

Robinson, the donor of the building, and Dr William F Honan, chief surgeon of the Metropolitan Hospital, New York City

State Health Department Activities—The State Department of Health recommends legislation to provide for the appointment by the health commissioner, of a physician to supervise medical inspection in the public schools whenever requests to that effect shall be made by the board of education The department also recommends an appropriation of $10,000 for the purchase of salvarsan for free distribution to boards of health, hospitals, dispensaries and physicians for use within the commonwealth

Cooperative Health Department—Seven cities of the state, Wellesley, Framingham, Weston, Melrose, Needham, Winchester and Canton have combined their resources to establish a single public health department consisting of a general administrative officer, a chemist, a bacteriologist, and an inspector of plumbing and sanitation together with the necessary assistants By this method each city secures more efficient medical inspection and sanitation at a less cost than was possible when each maintained an independent bureau of public health

Unidentified Disease—Eight deaths of children in Boston, seven of them in the Brighton section have stirred the health authorities of the city to efforts to identify the cause, the nature of which has not been clear The disease is characterized by intense thirst, vomiting and later diarrhea Until January 1 there had been about 100 cases in the city By some it is regarded as a form of influenza, while others speak of it as acidosis, similar to the trouble which caused a large number of cases and a good many deaths at Concord, N H, a year ago Necropsies and bacteriologic examinations have been made

Harvard Medical Changes—The president and fellows of Harvard College announce the following changes in the medical faculty Drs George Richards Minot, Harry Linenthal and Harold Bowditch, assistants in medicine, Drs Ernest G Grey and Albert Ehrenfried, assistants in surgery, Dr Robert Bayley Osgood instructor in surgery, Dr Raymond Stanton Titus, alumni assistant in obstetrics, Dr William Richard Ohler, Austin teaching fellow in bacteriology, Dr Francis Weld Peabody, consulting physician to the Collis P Huntington Memorial Hospital, Dr Robert Battey Greenough surgeon in charge of the Collis P Huntington Memorial Hospital, Dr Edward Hammond Risley, assistant surgeon to the Collis P Huntington Memorial Hospital, Dr Henry Lyman, research fellow in chemistry of the cancer commission of Harvard University, and Dr James Patrick O'Hare, changed from fellow to assistant in medicine

Personal—Dr Perley F Gardiner, Boston, was knocked down by an automobile truck recently and suffered wounds of the scalp and contusions of the arm——Dr Michael F Sullivan, Lawrence, has been elected a member of the executive committee of the Massachusetts Chapter of the American-Irish Historical Society——Dr William S Boardman, Boston, who was seriously injured a few days ago by being struck by an electric car at Jamaica Plain, is making good progress toward recovery——Dr Chauncey M Marstin, Braintree, was seriously injured by the breaking of the steering gear of his automobile, December 23——Dr Stanley H Osborn, Peabody, who has been appointed health officer for the Berkshire District, is on his way from Nish, Serbia, to assume the duties of his new position——Dr Frank M del Castillo, Cambridge, plunged into Jamaica pond and rescued from drowning five children who had ventured out on the thin ice——The residence of Dr John J Egan, Gloucester, was burned January 4, with a loss of about $12,000

MICHIGAN

Personal—Dr H C Richey, Urbandale, who was about to leave to take charge of a hospital at Moline, Ill, is reported to be seriously ill in the Battle Creek Sanatorium with angina pectoris——Dr R Genung Leland, physician to the Kalamazoo Antituberculosis Society, was operated on for appendicitis in the Bronson Hospital, Kalamazoo, January 3, and is said to be doing well

Medical Report of Ford Company—During the year ending July 31, 1915, the Ford Company in Detroit had 15,088 employees, which number has since been increased to over 24 000 The report of the medical department shows that there were treated during the fiscal year 164,331 cases, of which two-thirds were injuries and one-third cases of a medical character The vast majority of the accidents were of a minor nature, and there were no fatalities During the year 11,845 men were employed, each of whom had to pass a careful physical examination before being accepted It is said that 667 roentgenograms were made for the diagnosis of fractures and dislocations, and fifty-four persons addicted to drug habits were sent to the Ford General Hospital for treatment Including the treatment of medical cases of the families of Ford workmen by the medical department, 206 324 cases were taken care of Fifteen beds are maintained in the Detroit Tuberculosis Sanatorium for the treatment of employees with tuberculosis It has been found that men with incipient tuberculosis have improved when transferred to the heat treatment department with a high temperature and a humidity said to average 450 Proper instructions are given as to hygienic living

MINNESOTA

Personal—Dr Louis S B Robinson, St Paul, formerly assistant superintendent of the Minnesota State Sanatorium for Tuberculosis, Cass County, has been appointed superintendent of the Nebraska State Sanatorium, Kearney——Dr Gerhard A Dahl, Mankato was operated on recently in Rochester, Minn, for gastric ulcer

NEBRASKA

Smallpox at Wymore—Churches, billiard and pool halls, moving picture houses and schools have been closed in Wymore on account of the prevalence of smallpox in that place where eighteen cases have been reported

Typhoid Source Located—The source of typhoid infection in Lincoln is believed to have been located The health department has discovered a case of ambulatory typhoid in a factory where potato chips and other foodstuffs have been manufactured and fifteen out of the twenty-two families where typhoid has been reported, had been eating potato chips prior to the onset of the disease

Personal—Dr Simon C Beede, David City, retired from active practice January 1, but will continue to make his home in David City——Dr DeWitt C Bryant, oculist of Omaha for thirty years and for twenty years dean of Creighton Medical College Omaha, has moved to California and will spend the most of his time on his ranch at Clearmont, near Los Angeles——Dr Mark W Baxter, superintendent of the Ingleside State Hospital, has resigned to take effect February 1——Dr Ralph H Luikert, Norfolk, who has been working with the American Red Cross in Serbia since June last, has returned home and will practice in Omaha——Dr John W Duncan, Omaha, was seriously injured in a collision between his automobile and a delivery wagon, December 17

NEW JERSEY

Fights on Health Officers—The Supreme Court on January 4 dismissed the proceedings instituted by Dr Thomas A Clay contesting the order of the commission for the reinstatement of Dr J Alexander Brown as health officer of Paterson——There is said to be a contest between the State Board of Health and the Civil Service Commission on the question as to whether the state board can place any barrier in the way of the municipal government selecting a man as health officer Dr William C Woodward, formerly director of health of Washington, is said to be a candidate for health officer of Newark succeeding Dr Charles V Craster The civil service test was scheduled to take place January 8

Mosquito Extermination—The third annual report of the Atlantic County Mosquito Extermination Commission shows gratifying progress in the extermination of the two varieties of mosquitoes which infect that county and have been a source of great annoyance to the residents and visitors to Atlantic City and the other seaside resorts in Atlantic County The mosquitoes found there chiefly are the house mosquito (*Culex pipiens*) and the white-banded salt marsh mosquito (*Aedes sollicitans*) The commission began its work three years ago of eradicating the house mosquito by abolishing breeding places in fresh water pools, rain barrels and numerous other receptacles for water and the marsh mosquito by draining the salt marshes about the city The work was thoroughly organized both with reference to the city inspection and the ditching of salt marshes Two mechanical ditching machines have been in operation and over two million lineal feet of ditch have been constructed, 825,100 feet of which were made in 1915 The region about Atlantic City with its numerous inlets and tidal marshes offers about as difficult a problem for mosquito eradication as can be found anywhere, but the work of the commission has shown that even these difficulties may be overcome When the work of ditching has extended to the contemplated limits beyond the city, it is believed that almost absolute freedom from the mosquito pest will be experienced unless in exceptional seasons The tides which periodically flood the ditches and marshes keep the mosquito larvae on the move and also bring in large schools of minnows which feed on the larvae The entire elimination of the house variety of mosquito which breeds within the city and causes most of the annoyance to the inhabitants depends on careful inspection and the cooperation of the people

NEW YORK

Trudeau's School of Tuberculosis—Opportunity for the study of tuberculosis at Saranac Lake is to be provided in what is known as the Trudeau School of Tuberculosis, of which Dr Edward R Baldwin of Saranac Lake is to be director

Personal—Drs Henry T Williams and Charles R Barber have been appointed consulting surgeons and Dr David B Jewett has been appointed consulting physician and Dr Edwin S Ingersoll consulting laryngologist on the staff of the Iola Sanatorium for Tuberculosis Rochester There are at present forty patients in the sanatorium ——Dr William G Bissell chief of the department of bacteriology of the Buffalo Board of Health recently visited Cleveland to study the bacteriologic branch of the Cleveland Health Department

Lectures on Insanity—The mental hygiene committee of the State Charities Aid Association announces that in the interest of a state-wide campaign of education for the prevention of insanity plans have been made for public lectures Certain specialists in mental diseases have been appointed to deliver such lectures Among these are Drs Stewart Patton Smith Ely Jelliffe, August Hoch Thomas Henry Williams Menas S Gregory Charles S Little Thiells William Mabon James V May, Albany, Herman G Matzinger Buffalo, and others interested in social and educational work

Governor Whitman Urges Quarantine Transfer—Governor Whitman has sent a letter to President Wilson requesting the immediate assignment of a federal officer to the post of quarantine physician, made vacant by the recent death of Dr Joseph J O Connell It is further reported that President Wilson has directed Sur-Gen Rupert Blue to take over the station at New York and has designated Asst Sur-Gen Leland E Cofer to take charge The price to be paid to New York State by the federal government will have to be decided by a conference of representatives of the national and state governments

State Death Rate Low—The summary of returns for births and deaths for the state for 1915 computed on the new estimate of population furnished by the director of the United State Census Bureau shows that the deaths numbered 145 552 giving a rate of 15 per 1 000 population the lowest rate in the history of the state The rate for the state outside of New York City was 14 9 as compared with 15.2 for 1914 and 15 8 for 1913 For the first time in many years the death rate outside of New York City is lower than that of the city The report states that the promise of the state commissioner of health that with proper support he would save 25 000 lives in New York state outside of New York City in five years seems in a fair way of realization

New York City

City Wins Grand Prize—The Health Department of New York City won the grand prize awarded at the Panama-Pacific Exposition for its work and records in health and sanitation

Personal—Dr John A Ferguson is seriously ill with pneumonia at his home in Brooklyn ——Dr Lysander P Holmes has been appointed assistant superintendent of Johns Hopkins Hospital Baltimore

Health Department Pharmacy Transferred —The drug laboratory and pharmacy of the Department of Health passed out of existence January 1 and its functions were transferred to the general drug department of charities

Medical College Acquires Property—The New York Medical College and Hospital for Women has purchased the apartment house adjoining the college property on West 101st Street This gives the institution a total frontage of 200 feet.

Seaside Hospital Open.—It has been announced by the trustees of St. John s Guild that the Seaside Hospital at New Dorp Staten Island reopened for the reception of sick and convalescent children January 18 and will remain permanently open

Pilcher Celebration—The Medical Society of the County of Kings has adopted formal resolutions to hold a Lewis Stephen Pilcher semicentennial within the next few months to pay tribute to Dr Pilcher's ability as a surgeon, soldier teacher, author and editor

Quarter of a Million for Health Fund—At the ninth annual celebration of the founding of the Hospital for Deformities and Joint Diseases, subscriptions of $250 000 were pledged These pledges are the beginning of a fund of $1 000 000 which is to be raised for a new building Ten directors of the institute subscribed $10 000 each Dr Harry Finkelstein was made adjunct attending surgeon of the institution

Tuberculosis Clinic Physicians—The Tuberculosis Clinic Service of the Department of Health has hitherto been dependent upon the voluntary assistance of unsalaried examiners, who have been appointed in the order of efficiency and seniority to the salaried staff as rapidly as vacancies occur Clinic physicians have now been placed under civil service regulation and it is probable that in the near future a competitive examination will be held to secure an eligible list from which appointments to vacancies will be made Applications should be made to the Bureau of Preventable Diseases, Department of Health 139 Centre Street, Manhattan

Instruct Public in Importance of Birth Registration—The Department of Health has inaugurated a plan by which it may reach the public at large and set them to thinking of the importance of birth registration and the saving of infant life. Hereafter upon the receipt of the birth certificate in the Bureau of Records an acknowledgment will be sent to the parents in the form of a letter from the commissioner of health a certificate showing the record of the birth, and educational literature giving an outline of the essential features of child care Postal acknowledgment of all births reported by physicians and midwives and institutions will obtain as heretofore Parents will be urged to keep the certificate sent them since it will be of value to the child later on entering school or obtaining an employment certificate at the legal working age of 14 years

Cornell Surgical Service Reorganized—Cornell University Medical College has recently reorganized a surgical service at Bellevue Hospital There is now one visiting surgeon in charge two visiting surgeons two assistant visiting surgeons one junior surgeon one surgical pathologist and one assistant in experimental pathology The following is the staff as at present constituted Dr John A. Hartwell, assistant professor of surgery, visiting surgeon in charge, Dr George Woolsey, professor of clinical surgery, visiting surgeon, Dr John Rogers, professor of clinical surgery visiting surgeon, Dr Kenneth Bulkley, instructor in clinical surgery, associate surgeon, Dr James Worcester, instructor in clinical surgery associate surgeon, Dr Fenwick Beekman, instructor in operative surgery, junior surgeon, Dr Benjamin Vance instructor in pathology, surgical pathologist, and Dr J W McMeans, assistant in surgery, assistant in experimental surgery

Amendment of Sanitary Regulation of Sale of Milk.—The section of the sanitary code on the sale of milk cream, condensed milk or concentrated milk, condensed skimmed milk and modified milk, has been amended so as to do away with the requirement on the part of retail stores to secure permits from the Department of Health for the sale of milk cream etc The amendment affects approximately 14,000 stores in the city It is not to be interpreted however as indicating that the department will no longer supervise the sale of milk in these stores On the contrary they will probably be supervised more frequently than ever The reorganization of the Bureau of Foods and Drugs has made it possible to visit all stores where food is sold at least once every three months and this has made it unnecessary to continue the system of permits for stores selling milk at retail The final paragraph of the section reads The provisions of this section do not apply to milk and cream sold in hotels restaurants and retail stores nor to condensed milk or condensed skimmed milk when contained in hermetically sealed cans '

OHIO

Memorial to Old Practitioner—Dr J Arthur Hines Van Wert, has presented to the Van Wert County Hospital a bronze tablet in memory of his father Dr Philip John Hines the first physician of Van Wert.

Merger Planned—At a meeting of the Muskingum County Academy of Medicine at Zanesville December 29 a motion was passed asking merger with the Muskingum County Medical Society The society has not yet passed on the proposition

Marine Hospital May Be Sold—The present Marine Hospital Reservation in Cleveland, Ohio, and the improvements thereon, may be sold by the secretary of the treasury, if a bill recently introduced into Congress becomes a law The proceeds of the sale will be available for the provision of a new Marine Hospital at Cleveland

State Board Officers—Dr Lester E Sycmon, Cleveland, was elected president of the State Board of Medical Examiners, January 4, Dr John H J Upham, Columbus, was reelected vice president, and George H Matson, Columbus, secretary——Dr Wallace W Ryall, Youngstown, was appointed a member of the State Board of Health for a term ending Dec 13 1922, succeeding Dr Robert H Grube Xenia

Personal—Dr Argus B Swisher, Marysville recently underwent an operation in a Columbus hospital for the removal of a tumor——Dr Richard L Jett has returned to Cleveland after a year's service with a British Red Cross Hospital in Serbia——Dr Edwin A Hamilton Columbus, recently returned from service with the German Red Cross in Silesia——Dr Walter H Rieger Cleveland, is spending six months in graduate work in Harvard Medical School——Dr Frederick N Garand, Toledo, was operated on in the Toledo Hospital for malignant disease of the lip recently——Dr Alexander H Beam Hillsboro, has retired from practice and expects to continue to reside in Hillsboro——Dr Thomas C Hoover, Columbus, is reported to be seriously ill at his home——Dr Joseph R Thompson Cleveland, has returned after service in a war hospital in Serbia

Cleveland

Quack Refused Retrial—Federal Judge John M Clarke is said to have overruled a motion for a new trial in behalf of Dr Charles M Simpson of the 'Dr Chas M Simpson Medical Institute" 1840 W Fortieth Street Cleveland, found guilty of violating the Pure Food and Drug Act and making fraudulent claims for an epilepsy cure A fine of $200 and costs was imposed

Western Reserve News—Dr O O Van der Stricht professor of histology and embryology, University of Ghent Belgium, has just arrived from Holland to accept the post of fellow in cytology in the Anatomical Laboratory, Medical School Western Reserve University Professor Van der Stricht will devote his full time to research ——Dr Gaius E Harmon, instructor in hygiene and preventive medicine in the Medical School, has been appointed assistant registrar and chief of the bureau of vital statistics to the Cleveland City Division of Health——Western Reserve University has purchased thirteen acres of land lying adjacent to the university campus, on which the erection of a complete new medical plant is contemplated The present downtown hospital and school sites, it is said, will eventually be abandoned Upon the same campus will be housed also the dental and possibly the pharmacy schools which are at present affiliated and located downtown A new dental school building is about to be constructed Other institutions will be added from time to time

New Dental Research Institute—The trustees of the National Dental Association have purchased a large private residence as temporary quarters for a new Research Institute until adequate buildings can be erected The Research Institute is supported entirely by the association, and the plan of organization is a corporation with a membership of sixty, twenty-seven of whom are elected by the trustees of the National Dental Association and known as commission members, and thirty-three are permanent members and are selected by the corporation The board of nine trustees has chief responsibility for the conducting of the work in the institution and carried on under grants They are assisted by an advisory board of eighteen, composed of leading men of science, leaders in business and philanthropy It is said to be the first institution of its kind in the world Various problems contemplated for study are Pyorrhea, dental caries, mouth infections, relation of baby foods to tooth structure, relation of glands of internal secretion to defective tooth structure, staining of teeth, etc Part of the work will be the collecting and distribution of information for educational work, particularly for the medical and dental professions The present officers are Dr W A Price, Cleveland, president and managing director, Dr Thomas P Hinman, Atlanta two-thirds were, Dr Clarence J Grieves, Baltimore cal character The vast Cleveland assistant secretary, and minor nature, and there weland, treasurer

Cincinnati

Academy Election—At the annual election of the Cincinnati Academy of Medicine January 3, the following officers were elected president, Dr Charles T Souther, vice presidents, Drs Derrick T Vail and J Edward Pirrung, secretary, Dr William R Abbott, and treasurer, Dr Alexander G Drury

Public Health Laboratory for Cincinnati—The Cincinnati Chamber of Commerce has taken up the endorsement of the United States Public Health Service and will ask favorable consideration of an estimate made by the secretary of the treasury for $20,000 for repairs to the old Marine Hospital Cincinnati, that a permanent laboratory may be established for the prosecution of further studies of the pollution of streams, disposal of domestic sewage and industrial wastes and other problems relating to sewerage

Personal—Dr John M Withrow has been reelected president of the Cincinnati Board of Education——Dr Charles A. Stammel has succeeded Dr Ellis R Bader as receiving physician at the Cincinnati General Hospital——Dr Erwin O Straehley has been appointed a member of the board of trustees of the Cincinnati University——Dr Samuel J Goldberg has been appointed clinical director of laryngology and otology in the medical department of the university He has also been made assistant clinical director of laryngology and otology in the Ohio-Miami Medical College

UTAH

State Chemist Moves—State Chemist Harms has moved into his new office and laboratory in the State Hospital His suite adjoins that of the State Dairy and Food Commission

Richfield Wins Clean-Town Contest—Richfield, Sevier County, obtained the highest score in the state-wide clean-town contest recently conducted by the State Board of Health with a score of 73 5 Salt Lake City came second with 72 5

Trachoma — Twenty-five cases of trachoma were found among the Indians at Deep Creek by Asst Med Supervisor Ferdinand Shoemaker, assistant examiner of the U S Indian Service December 14 Dr Shoemaker left for Skull Valley to treat the Indians there found to have trachoma

Personal—Dr Clarence M Clark, assistant physician at the State Mental Hospital, Provo, has resigned and moved to American Fork——Dr Robert T Jellison, Jr, Salt Lake City, formerly of Bingham has succeeded Dr Clark at the hospital——Dr Hardie Lynch has been appointed pathologist of Salt Lake County, succeeding Dr Claude L Shields, resigned Dr Lynch is also city bacteriologist of Salt Lake City

WASHINGTON

State Board Election—At the annual meeting of the Washington State Board of Medical Examiners January 4, the following officers were elected president, Dr Royal A Gove, Tacoma, vice president, Dr Daniel M Stone, Seattle, secretary Dr Conrad N Suttner, Walla Walla, and treasurer, Dr H R Morse, Wenatchee

Personal—Dr William W Brand, Rosalia, who has been seriously ill with erysipelas, is convalescent and has resumed practice——Dr George M Horton, Seattle, was operated on for gallstones in St Mary's Hospital, Rochester, Minn, recently——Dr Walter Gellhorn, who left Seattle November 17 to join the German Red Cross, is said to have been taken prisoner by the British government on December 9 It is said to be alleged that he was carrying plans for military inventions and chemical formulas to Germany

WISCONSIN

State Compensation Law—During the last fiscal year the physicians and hospitals of the state received $400,000 for services rendered under the state compensation law This sum was almost half the total amount paid directly to injured workmen or their families

Personal—Dr James S Stitt, Milwaukee, is reported to be seriously ill with pneumonia in Trinity Hospital——Dr George H Fellman Milwaukee, has resigned as physician at the Home for Dependent Children——Dr Frank Brockway Oshkosh, has been appointed superintendent of the State Tuberculosis Sanatorium, Wales

CANADA

Patriotic Medical Aid Bureau—A patriotic medical aid bureau has been organized by the physicians of Regina, Sask which will give medical assistance to all dependents of those who have gone to the front Patients will be sent to the office of one of the physicians of the bureau or to the outpatient department of the General Hospital, or in emergency or serious illness a physician will visit the patient If nursing is required the patient will be either sent to a hospital or a nurse will be supplied by the patriotic fund If assistance is required in the home, a nurse will be sent by the fund under the supervision of a visiting attendant

GENERAL

Hospital Ship for Fishing Banks—The coastguard cutter *Androscoggin*, which is being used as a hospital ship for deepsea fishermen on the banks, sailed from Charlestown Navy Yard last week for Shelburne, N S

Embargo Removed—According to *Commerce Reports* January 11 the embargo formerly placed by the British government on shipments of logwood from Jamaica has been removed The embargo was declared in December, 1915

Appropriation Asked for Rural Sanitation—On behalf of the United States Public Health Service Secretary McAdoo on January 4 transmitted to the House of Representatives a recommendation for an emergency appropriation for $100-000 to promote rural sanitation The money is especially desired to combat the spread of pellagra and typhoid fever

Building Exposition—*Commerce Reports* announces a semiofficial exposition of methods and materials for the reconstruction and improvement of houses, factories, farms highways etc to be held in Paris under the patronage of the president of France in May, June and July The United States is the only foreign country that has been asked to participate.

New Editor—The American Orthopedic Association announces the appointment of Dr Mark H Rogers, Boston, as editor of the *American Journal of Orthopedic Surgery* The journal will henceforth be issued monthly, the first number being that of January 1916 The office of publication has been transferred from Philadelphia to Boston where it is published by Mr Ernest Gregory, 126 Massachusetts Avenue

Pacific Roentgenologists Meet.—The second semiannual meeting of the Pacific Coast Roentgen Ray Society was held in San Francisco, December 11 and 12 president, Dr Albert Soiland, Los Angeles, in the chair Resolutions of regret were adopted on account of the death of Dr Robert E Austin, San Diego a charter member of the society The first day was spent in the presentation of papers and the second day in visiting the Roentgen laboratories of the hospitals of San Francisco and observing the practical work

Prevention of Malaria—The prevention of the dissemination of malaria and other diseases among the several states is the nominal basis of a bill introduced into Congress on January 4 The bill provides for the establishment of a drainage fund of $10,000 000 for the construction of drainage works to reclaim wet, overflowed and swamp lands As the lands are to be made available for agricultural purposes, the administration of the proposed law is vested in the secretary of agriculture, and the bill was referred to the committee on agriculture.

Conference of United States Public Health Service With State Health Officers.—The Surgeon-General of the Public Health Service has called a conference of state health officers to meet in Salt Lake City Utah February 2 The call is issued under authority of an act to increase the efficiency and change the name of the United States Marine Hospital Service, approved July 1, 1902, and is based on requests filed by seven Rocky Mountains states The purpose of the conference is to consider rabies spotted fever and other public health matters The call is not limited to the states that joined in the request for the conference, but every state has been invited to send one delegate

Warning—Dr William T Collette Versailles, Ky, warns the members of the American Medical Association against the Western Supply Company of Indianapolis, and its representative, Mr B L. Strong, who on payment of a service fee of $10.00 issued a certificate that the Western Supply Company agreed to furnish Dr Collette with all automobile supplies at cost f o b factory for one year from date. On inquiry by Dr Collette's bank the Western Supply Company is found to be unknown We note that the certificate is dated Jan 1 1917 We do not know whether this postdating is intentional or not, but at all events members should be on their guard against dealings with any company which does not have a recognized commercial standing

Millions Spent in Tuberculosis Fight—The National Association for the Study and Prevention of Tuberculosis reports that during 1915 more than $22,500,000 was spent in the antituberculosis campaign, an increase of $17,500,000 as compared with a decade ago The work of the association has increased from the care of tuberculosis patients, which was its sole function, until last year more than $1 000,000 was spent in organization and education, more than another million in the examining giving advice to and treating patients, more than $350,000 was spent in teaching and treating tuberculous children, while nearly $750 000 was spent in the care of the tuberculous insane and criminals The bulk of the amount spent in the antituberculosis campaign was, of course expended in sanatoriums and hospitals, nearly 600 of which expended $19 250,000

National Leprosarium.—The desirability of a national leprosarium is recognized in a bill now pending in Congress The Surgeon-General of the Army, the Surgeon-General of the Navy and the Surgeon-General of the Public Health Service are constituted a board to report on the selection of a suitable site For erection and maintenance $500,000 is provided The establishment is to be administered by the Surgeon-General of the Public Health Service, whom it authorizes to receive into the leprosarium any leper who presents himself for admission or who may be apprehended or detained under authority of the United States quarantine laws He may also upon application of the authorities of any state or of the District of Columbia, send for any leper and place him in the leprosarium for treatment. The bill was referred to the committee on appropriations

Pollution of Streams—In a suit for damages brought by the property owners of the village of Batavia, N Y on account of the pollution of a stream by the emptying of the village sewage into it, the supreme court confirmed a judgment awarding damages to the plaintiffs The court said The inhabitants of a city or village, collectively, have no more right to pollute the waters of a stream than a single individual, and where a city empties its sewer system into a living stream, as the defendant has done in this case, and damage results to the riparian owners, it must respond in damages If such acts are continued and a proper case is made out, an injunction should issue restraining such unlawful acts, and if the village persists in defiance of the injunction, the village and local authorities responsible for such violation should be punished for contempt"

National Child Labor Conference—The annual conference of the National Child Labor Committee will be held in Asheville N C, February 3 to 6 The program of the meeting is not yet complete, but among those who will read papers are Dr Felix Adler of the Ethical Culture Society, New York, Homer Folks chairman of the National Association for the Prevention of Tuberculosis, Lillian D Wald, Florence Kelley, Stephen S Wise, Owen R Lovejoy A J McKelway and E. N Clopper, the latter three of the staff of the National Child Labor Committee The general topic of the meeting will be 'Safeguarding American Childhood" Attention will be given by the conference to the Keating-Owen federal child labor bill which is now in Congress All state health factory inspection and school officers have been invited to attend and the governor of each state has been asked to send five delegates

Bequests and Donations—The following bequests and donations have recently been announced

Mission Hospital Asheville N C, an endowment of 20 000 by the will of Mrs Charles Francis.

Philadelphia County Medical Society for the aid of Philadelphia physicians principally graduates of the Medico Chirurgical College of Philadelphia a contingent bequest of the greater part of the estate of Dr William B Banks

Elmyra County (N Y) Tuberculosis Sanatorium $5 000 toward the cost of a new hospital contingent upon the raising of $17 000 additional by the board of supervisors by Charles E. Rapelyea

Reading (Pa) Hospital $1 000 by the will of Emily A Smith

Abington (Pa.) Hospital an additional gift of $250 000 by George W Elkins president of the board This makes his contributions to the hospital $708 000

German Hospital New York City, $1 000 by the will of Casper A Stock.

Jewish Hospital Philadelphia contingent bequest of the residue estate of the late Isaac Silvernail

Philadelphia Jewish Hospital Mount Sinai Hospital and Eaglesville (Pa.) Sanatorium for Tuberculosis each $500 and Federation of Jewish Charities $1 000 by the will of Bernard Harburger

Railway Accidents in 1915—According to *Accident Bulletin 56* of the Interstate Commerce Commission there was during the year to June 30 1915 a total of 170 661 casualties on steam railways of the United States Of this number 8 621 represent persons killed and 162,040 the number injured This is a decrease over the figures of 1914 of 1 681 in the number of persons killed and 30,622 in the number injured The number of employees killed was 343 and the number injured was 99,192 in "industrial accidents" which are defined as accidents not connected with train operation but occurring to railway employees other than train men on railway premises Of the total number of persons killed 2 152 were employees, 222 passengers and 6,247 other persons including both trespassers and nontrespassers, thus there was a decrease over the figures of 1914 of 1,107 employees killed 43 passenger and 531 other persons Of the persons injured 138,092 were employees, 12,110 passengers and 11,838 other persons This is a decrease in the figures of 1914 of 27,120 injuries to employees, 3,011 to passengers and 491 to other persons

FOREIGN

Prize Awarded by Netherlands Society to Sir David Bruce—The Netherlands Academy of Sciences has recently awarded to the surgeon-general of the British army, Sir David Bruce, the Leeuwenhoek medal It is awarded every tenth year, and this is the first time it has been given to a British scientist although Leeuwenhoek himself was a foreign member of the British Royal Society The greater part of his discoveries were published in the transactions of the British society The previous recipients of the medal were Ehrenberg, 1875, F Cohn, 1885, Pasteur, 1895, and Beverinck, 1905

Free Meals for Schoolchildren—According to *Commerce Reports,* dinners are served to the Leeds, England, children of sixteen schools the cost of which is defrayed, one half from the city rates and one half from the government grant by the board of education For the four weeks beginning with November 1914, there were 48 055 dinners served In the corresponding period in 1915, the number declined to 8 889 Typical menus were as follows Irish stew, brown and white bread currant cake, pea soup, brown and white bread, parkin, crust pie, brown and white bread, currant cake, etc

Memorial to Eustachius—A bronze tablet was recently unveiled with much ceremony in the great quadrangle of the University of Rome to the memory of Bartolommeo Eustachio, discoverer of the eustachian tube, who died in 1574 Prime Minister Salandra, the minister of public instruction, the mayor of Rome, and other notables were present The tablet is on one of the pillars supporting the upper portico, and represents Eustachius in relief, seated, ready to begin lecturing, garbed in the academic robes and holding a human skull His arm rests on charts showing the structure of the internal and middle ear The inscription, besides the name and dates, states "Artis anatomicae lumini," and below, "Senatus Academicus—Quartis feriis secularibus"

Number of Physicians to Population in France and Italy—The *Riforma Medica* of Naples states that the number of registered physicians in Italy is 22,705, which represents, to a population of nearly 36,000,000, 6 3 physicians to each 10 000 inhabitants In Naples the proportion is 12 to each 10,000 inhabitants, Rome, 9 9, Milan, 7 1, the Como district, 4 4, and the Syracuse district, 4 3 per cent There are about 130 foreign physicians Among them are 25 licensed to practice only among their compatriots as they have no diploma from Italian medical schools About 85 have obtained an Italian degree, and 20 are graduates of British schools entitled to practice by reciprocity arrangements Our exchange cites further statistics which show that in France, before the war, there were about 20,000 physicians, 3,000 were settled in Paris Of this latter number, only 5 or 6 had an income of $40,000 or $60,000 a year, 1,200 had an income of less than $1,600, and the great majority did not make $800 a year The present French Chamber of Deputies has 80 medical members

Death of Leading Italian Physician and Statesman—The cable brings word of the death of Guido Baccelli, professor of clinical medicine at the University of Rome and chief of the great general hospital, the Policlinico, the erection of which was mostly his work, aged 84 His father was a physician and his family long famous in the history of Rome As a member of parliament and minister of public instruction, he revolutionized the teaching of medicine in Italy and was mainly instrumental in the great excavation works undertaken at Rome and elsewhere in Italy to preserve historical edifices The sanification of the Italian marshes was also initiated and promoted by him, and he has been a leader in all movements to improve conditions in the medical profession He served at one time as professor of the history of medicine and later succeeded in overcoming the opposition to the teaching of pathologic anatomy, and was the first incumbent of the newly founded chair at Rome The biographical dictionaries of 1901 state that at that date he had published over sixty works on various phases of medicine and pathologic anatomy, auscultation of the whispering voice, etc, but he is best known by his pioneer work on intravenous injection of heroic drugs and his phenol treatment of tetanus The latter proves so uniformly successful in Italy that some conclude that tetanus in that country is less virulent as the Baccelli method does not answer so well elsewhere

Interesting Newspaper from the Orient—The *China Press* printed at Shanghai, for Sunday, Oct 3, 1915, gives an account of the meeting of the members of the China Medical Board of the Rockefeller Foundation, headed by Dr Wm H Welch, with the leading citizens of Shanghai on the occasion of their recent visit to that city The paper contains the complete address of Dr Welch on that occasion The *Press* is largely an American enterprise, is in charge of Americans as managing and associate editors and is promoted by both American and Chinese capital It has achieved a leading position among the foreign press in China and compares as a newspaper favorably with the American papers A Sunday edition is printed and among its features is a colored supplement which speaks well for the mechanical equipment of the paper Another example of the enterprise of this American newspaper plant in China is a special edition in the form of a supplement called "The Rebirth of a Nation" This is a large pamphlet of half the size of a newspaper page with a gorgeous cover in gold and colors printed on heavy paper and containing an article in Chinese (with translation) by Yuan Shih Kai, then president, and now emperor of China, besides a large number of other articles on various subjects important to the new empire of China by various government officials, military officers, American officials and others Among these articles is one by Dr John R Taylor on sanitation, health and safety service for China, one on the suppression of the opium traffic, by General J Chang, and also an article on preventive medicine and hygiene as taught at the Tsing Hua College This supplement is abundantly illustrated by portraits of Chinese statesmen, military officers, American trade representatives and others, and scenes in the development of the new China The supplement is an example of newspaper enterprise that is highly complimentary to the American promoters of the *China Press*

LONDON LETTER

London, Dec. 30, 1915

The War

THE SHORTAGE OF MEDICAL STUDENTS AND PHYSICIANS

The shortage of medical students, owing to those of the first, second and third years joining the army as combatants and the shortage of physicians because of the creation in this country for the first time of an army on the continental scale, continue to be burning topics Even if the war ends in the next year or two, the situation in the profession will be serious enough, owing to the heavy drains on it But if the war is still further prolonged, the fact must be faced that after about the end of 1916 no present student will become qualified, except a few men medically unfit for military service, during the whole of the war period The demand has therefore been put forward that first and second year students should be relegated to so late a class in the reserved groups that their calling up will not occur except in case of the most desperate need As regards physicians, the position is this There are now 10,000 army surgeons, most of whom have been withdrawn from civil life for service with the armies, which number 3,000,000, while only 20,000 are left to serve 40,000,000 civilians who include all the aged, infirm and "medically unfit" Moreover, there is the prospect that a further increase of the army may lead to a demand for 15,000 army surgeons The physicians under the insurance act are now greatly overworked, as they have the care not only of their own patients but also of their colleagues who have joined the army The staffs of the large hospitals are so denuded that an operator recently had to act as his own anesthetist On the other hand, it is frequently stated that the army in the field is over supplied with surgeons Many have come home disappointed with the small opportunities provided for putting their professional skill and experience at the service of the fighting men But it must be remembered that a staff much too large under the present condition of trench warfare might all be required after a big battle The suggestion, therefore, has been made that it is unnecessary to maintain permanently such a big staff, as after a battle the staff at the front could be temporarily reinforced from this country in a few hours

THE HIGH PRICE OF DRUGS, AND OTHER HOSPITAL DIFFICULTIES

Another difficulty of the hospitals is the high price of drugs Epsom salt has gone up 50 per cent, salicylic acid costs nearly twenty times as much phenol (carbolic acid), owing to its use in the making of explosives, is procurable only on the special authority of the War Office The difficulties of the hospitals extend also to mechanics, dispensers, clerks and porters, who have joined the army in considerable numbers

"CLEARING STATIONS" AT THE FRONT

"Clearing stations" are a new development in the army which have first been put to trial in the present war They are situated a few miles from the firing line just outside the range of shell fire They were originally intended to enable the field ambulances to clear themselves and then pass on the wounded to the stationary hospitals or to the base But the circumstances of this war showed that they could be made much more useful They have been transformed into well equipped hospitals capable of dealing with all urgent operations, and of retaining and nursing patients whom it is desirable not to move Thus in cases of wounds of the abdomen, laparotomy can be performed within a few hours of receipt of the injury

Death of Sir Henry Roscoe

Sir Henry Roscoe F R S, has died at Leatherhead in his eighty-third year Though not a member of the profession his name was well known to medical men in consequence of his textbooks on chemistry In 1857 he was appointed professor of chemistry at Owen's College Manchester He was a most lucid teacher and adopted the system of encouraging every student to undertake a research under his guidance or that of some other member of the staff In pure chemistry some of his most important published memoirs are those dealing with vanadium He showed that the substance supposed by Berzelius to be metallic vanadium was in reality an oxid of that metal, he carried out an extensive research on the vanadium compounds and showed the relationship of certain vanadates with the phosphates, arsenates, etc. Among his other researches may be mentioned those on the distillation of dilute acids and on perchloric acid But it was as a writer of textbooks that he most distinguished himself His Elementary Lessons on Chemistry' first published in 1866, were an extraordinary success and were translated into many languages Later he collaborated with Schorlemmer in producing in 1877-1888 their great Treatise on Chemistry"

Women Dentists

The rapid entry of women into the dental profession, which has been going on for some years, has, like their entry into the medical profession, been accelerated by the war, which has withdrawn male dentists from civil practice How keen women are in their work is shown by the facts that at the National Dental Hospital the gold medal for the best student has been won two years running by a woman student, and that in a recent examination in histology a woman student received a rank of 98 per cent the men students' usual average being between 70 and 80 per cent. In the extraction room at the school on a recent day the women had a record of 139 teeth removed under gas One student alone removed thirty-eight teeth from nine patients and was contemplating golf as a medium for increasing the power of her forearm Women are being sought for the school clinics, where the advertised salary starts at $1,250 but so far most of those who have qualified have preferred to set up in private practice, in which they have been very successful Most of them marry dentists and share a family practice.

Crude Eugenics

At the Eugenics Education Society, Sir John Macdonell recently delivered an important address on "Eugenics and Law" He deprecated hasty legislative action based on imperfect knowledge There was such a danger as science in a hurry Had the precepts as to eugenics in Plato's Republic" been carried out, Isaac Newton would probably have been made away with when an infant as a degenerate Much of the best and highest work of the world had been done by the physically feeble whom the crude eugenics of savage communities and rash theorists would condemn The lecturer took exception to the drastic legislation in some states of the American Union directed against certain classes of criminals Such measures were needless Segregation was sufficient. He then asked if the great estrangement between different races, which lapse of time in some countries seemed only to widen, was based on a sound instinct or the perception of a biologic truth? No clear answer was forthcoming There was a school of writers, represented by Comte de Gobineau, who maintained that purity of race was the secret of eugenics There were many signs that a social and economic struggle between races was in progress, for the whole world, including the backward races was restless and in motion as it never was before. Should the true *jus connubii* for races be that formulated by de Gobineau and his followers, a capital sentence on many races would be pronounced They would be authoritatively branded as inferiors with the knowledge on their part that they are inferiors But mixture of races had led to past progress Who knew that eugenics might not disclose a rational *jus connubii,* such as neither Roman law nor any other system conceived, based on the fusion of allied races, one which would level up some backward races without debasing the advanced?

Major Darwin, the chairman, said that when they came to the half-caste it was generally found that one of the parents was an undesirable specimen of the race selected He instanced Eurasians, and declared that the Indian mother was generally below the average of her race, and the origin of the statement that half-castes were inferior was probably due to the unhappy selection of the parents in that way "If I may quote my father's view" added Major Darwin, "he did not publish it because he had not sufficient information at the time, but it is an impression I gathered from his conversations that he was distinctly of opinion that a slight admixing of race was beneficial, but I think he was equally clear that a large admixture was harmful" Major Darwin added that he himself was against the mixing of races, because, while they might bring up the lower of the races, he could not see how they were to avoid bringing down the higher of the two

PARIS LETTER

Paris, Dec 30, 1915

Personal

At the session of December 21, the Academie de medecine held its elections Dr Gustave Bouchardat was almost unanimously elected vice president for 1916 (and consequently president for 1917) Dr Bouchardat was born in Paris, June 4 1842 and received his doctor's degree in 1869 on a thesis which indicated his inclination toward chemistry He was at that time an assistant of Berthelot in whose laboratory he worked five years He was appointed agrege professor at the Faculté de medecine de Paris in 1873 and in the Ecole de pharmacie in 1874 He became the first professor of hydrology and mineralogy in the latter school in 1882 He is at present honorary professor, a member of the Conseil d'hygiene et de salubrite du departement de la Seine and has been a member of the Académie de medecine since 1882 His principal works have had to do with sugars (mannite, dulcite and glucose) and essences He published the first work leading to the manufacture of synthetic rubber and laid the foundation for synthetic camphor It is interesting to note that Gustave Bouchardat will reach the presidency of the Academie de medecine fifty-one years after his father, A Bouchardat, professor of hygiene at the Faculte de médecine de Paris

The War

DISCHARGES FROM THE ARMY FOR TUBERCULOSIS

Up to the present the army has simply discharged tuberculous soldiers and sent them home This meant on the one hand a wretched life of invalidism for these unfortunate men and on the other the danger of contagion for the surrounding healthy population M Honnorat has presented a bill in the chamber of deputies intended to avoid this double danger At present there is an interval of three months between the time when the man affected with tuberculosis is designated for discharge and the time when he actually receives his discharge According to the bill these three months are to be devoted to the patient s care and instruction in an antituberculosis regime This treatment and this hygienic instruction require much money As I mentioned in a previous letter (The Journal Jan 1 1916 p 45) the chamber of deputies voted 2 000 000 francs ($400,000) for this purpose The military medical service has offered also 3 francs (60 cents) per day As M Brissac, director of public charities and hygiene in the interior department, recently remarked before the Alliance d'Hygiene Sociale there are at present twenty-three sanitary stations for the tuberculous due in part to private generosity which are ready to operate Under present conditions 2,000 tuberculous patients may be cared for at a time in these new institutions The duration of the patient's stay there ought to be three months, that is, 8,000 patients can be given hospital care there each year These patients sent there will be either soldiers about to be discharged referred directly by the military medical service or soldiers already discharged for tuberculosis referred by the civilian authorities Only curable patients or at least those whose condition is capable of being improved will be received The medical staff will consist of the civilian physicians of the region with perhaps some military physicians returned from the front to recuperate, and the nursing staff, of nurses furnished by the Societe des infirmieres visiteuses de France Departmental committees of assistance will take charge of the tuberculous soldiers when they leave the sanatoriums

MODIFICATIONS IN THE ARRANGEMENTS FOR SENDING PHYSICIANS TO THE FRONT

The undersecretary of the war department (medical service) has introduced some modifications in the arrangements for sending physicians to the front which are based especially on the following considerations (1) duration of previous sojourn at the front (those who have been there only a short time should return sooner than those who in the first place remained at the front for many months), (2) family responsibilities (it is only just that bachelor physicians should be called to the front before those men who are married or widowers with children depending on them and that account should be taken of the number of children) Each physician in the military service who is now in the interior of the country has been invited to fill out an individual record showing his age, the length of his service at the front, the number of children in his care, and the number of his living children

THE WAR AND THE HIGH PRICES OF DRUGS

Our medicinal chemical substances have come almost altogether from Germany Accordingly, ever since the end of August 1914, there has been great scarcity in the most indispensable drugs quinin antipyrin, chloroform, morphin, etc As I mentioned previously (The Journal, Nov 20, 1915, p 1831) an office des produits chimiques et pharmaceutiques was founded in the war department under the direction of Professor Behal, who at once organized or adapted factories, made purchases in America and succeeded in restoring our supplies of medicines Medicines, however, have remained at a price which is prohibitive for many patients For instance aspirin, which was worth 5 francs ($1) per kilogram (2 pounds) fifteen months ago, is worth 200 francs ($40) at present Other drugs have risen proportionately Why? Simply because the authorities have not chosen to take advantage of the facilities offered by the Office des produits chimiques et pharmaceutiques by informing the office of their needs or commissioning it to make their purchases Instead, they have used the pernicious method of requisition The office has been allowed to take great trouble to acquire a stock of medical supplies, then, at the moment when it is about to distribute its supplies among the pharmacists who depend on it, the authorities requisition the whole amount The pharmacists, thus left in the lurch, are obliged to supply their wants the best way they can and to pay whatever the middlemen ask So patients continue to pay very high prices for medicines

A GUIDE FOR RECKONING INCAPACITY FROM DISEASE OR WOUNDS

As I mentioned in a previous letter (The Journal, Aug 14, 1915, p 636) the medical experts called on to estimate the reduction in capacity for work resulting from wounds of war have been invited to refer as much as possible to the figures established by writers and by legal decisions based on the law with regard to industrial accidents Inspection of recent records shows, however, that the estimates of experts vary greatly for cases of similar character and seriousness To remedy these inconveniences, the war department has published a Guide-Barême des invalidites intended to produce a certain uniformity in the estimates of experts It is not intended to impose on the medical experts an absolute valuation of each lesion or infirmity in terms of incapacity, it is intended merely, as its name indicates, to serve as a guide, to reenforce personal experience and memory, etc.

MEASURES AGAINST FAVORITISM

A physician superintendent of a hospital abused his position to give special favor to the soldiers and noncommissioned officers under his care One of these, habitually received at the table of this physician, remained at the hospital six months with the privilege of going out when he liked Another, nominally at the hospital for three months, really passed almost all the time with his wife at home, where the physician in question was frequently a guest at his table For these reasons and also because of the unsatisfactory conditions which prevailed in the hospital where these events took place, General Gallieni, minister of war, has given this physician a punishment of sixty days' imprisonment and he will be dismissed at the end of his term of imprisonment His chiefs, who are responsible for having permitted such abuses through failure to exercise oversight and who left the minister to discover the facts after they had become matters of almost public notoriety, have been relieved of their functions

In bringing these facts to the attention of medical inspectors, the minister calls their attention to the importance of verifying during their visits to hospitals the conditions there, and of severely repressing any tendencies toward laxness

INJECTIONS OF PETROLATUM AND SOFT PARAFFIN IN FISTULOUS TRACTS PRODUCED BY WOUNDS OF WAR

Dr Marquis of Rennes has reported to the Societe de chirurgie de Paris some excellent results given by injections of a mixture of petrolatum and soft paraffin in cases of serious lacerations, the repair of which seems difficult or likely to be indefinitely prolonged and especially in large fistulous tracts where drains had been placed for a long time After various attempts at forming a mixture with a higher melting point than petrolatum, which, melting at 40 C (104 F), is absorbed by the dressing, Marquis decided on a mixture of nine parts of petrolatum and one of soft paraffin This petrolatum and paraffin mixture, melted in a water bath, is injected into the fistula with a syringe of 20 c c while a tampon closes the opposite orifice of the fistula These injections are repeated every day or every two days Before this treatment, fragments of projectile, of clothing and of bone should be carefully removed from the wounds It is not necessary to wait until suppuration has completely ceased but it should not be profuse

These injections of petrolatum and paraffin are painless, and they shorten the time of healing of fistulous tracts considerably

LIGHT AND UNRECOGNIZED FORMS OF MALARIA IN THE ARMY

Some gastro-intestinal and infectious conditions observed at the front have sometimes been designated by the name of 'fever of the trenches" According to a communication made by Dr Paul Sainton, physician of the hospitals of Paris, to the Academie de medecine, some of the cases consist of light and unrecognized forms of malaria Only the examination of the blood taken at the time of the attack of fever permits the recognition of the presence of malarial parasites The cases observed by Sainton come from the region of Flanders where conditions favorable to malaria abound mosquitoes, disturbed conditions of the soil, and floods in the presence of old centers of malarial infection

A NEW FRENCH RED CROSS STAMP

The French Red Cross has just had made for 1916 a new special stamp to be sold for the benefit of the wounded This stamp represents a soldier wearing a helmet on his head The red cross appears against the yellow background of the stamp, which bears the two following inscriptions "Société française de secours aux blesses militaires, 1916," and, below the vignette, "Ils se battent pour nous soignons leurs blessures" The stamps are sold in packages of twenty for 1 franc (20 cents) or 5 centimes (1 cent) per stamp The public is invited to use this supplementary stamp not only for correspondence within the country but also for letters sent to the front which are franked by the postoffice

THE GOLDEN BOOK OF THE PARIS MEDICAL SCHOOL

The Faculte de médecine de Paris has decided to record in a Book of Gold the deaths and the memorable actions of its students, employees, teachers and graduates Meanwhile a tablet of honor has been installed on which are inscribed the names of seventy-nine students, doctors and other persons connected with the school

THE BRAILLE SYSTEM PREFERABLE TO OTHER SYSTEMS FOR THE EDUCATION OF THE BLIND

The number of those who have been blinded by wounds of war is striking Recently Professor Monprofit of Angers explained to the Academie de medecine the principles of the method established by Mlle Mulot, former head of the Ecole d'aveugles d'Angers, for the education of the blind and his emphasized the advantages of this method. It may be questioned however, if this method is really preferable to instruction by the Braille system. Lieut.-Col. H. de Castries, a competent judge of such matters, does not think so. According to Mlle. Mulot, her method is revolutionary, it removes all barrier between the seeing and the sightless and permits the instruction of both in the same classes and under similar conditions. As a matter of fact, Mlle. Mulot has merely invented a kind of compartmented guide, which permits the blind to trace in relief the characters of ordinary writing. Similar devices are already in existence, and differ very little from one another in value. They permit the blind people to produce writing which may be read by those who have their sight, and therefore they should not be neglected in the education of the blind. But this method of writing is only an accessory, not at all capable of replacing the Braille. The Braille alphabet is different from these other systems in utilizing point relief while they utilize line relief. The public is apt to think that since the writing of those who have their sight consists of a combination of lines, this kind of writing is preferable to teach to the blind. The blind themselves, however, do not think so. All of the blind will testify that for the sense of touch there is a great difference between the sensation of the point and the sensation of the line. The former is exact and precise, the latter is always uncertain, for the fingers grope to find the extremities of the line. While books written in Braille over fifty years ago are still legible under the finger of the blind, a page of ordinary written characters traced in relief by one of the other methods becomes difficult to read at the end of a very short time. It is, of course, agreeable to receive from a blind friend or member of the family a letter which may be easily read, but if one gives this letter to another blind person it is more than probable that he will not be able to read it readily. Moreover even waiving this difficulty, what advantage is there in the cursive character methods over the Braille method? The former does not remove the barrier between the seeing and the sightless, it does not enable one of the former class to write to a blind friend without becoming acquainted with the guide which he uses, and it takes just as long to learn this guide system as it does to learn the Braille alphabet. It should be added that there is no music notation for the blind except in the Braille method, and therefore none of the other systems permit the blind person to read music. Lieutenant-Colonel de Castries remarks that the Conseil general du departement de Maine et Loire investigated Mlle. Mulot's method some years ago. It appeared that none of the blind pupils educated in Mlle. Mulot's institution during almost twenty-five years was provided with the means of earning his livelihood. All became dependent, to a greater or less extent, on the Assistance publique. In view of these negative results the departement de Maine et Loire decided to support no more scholarships at Mlle. Mulot's school.

Marriages

Walter Stanley Jones, M.D., New Bedford, Mass., to Miss Florence Esther Rowell of Fitchburg, Mass., at Groton, Mass., December 29.

Leo Moltke Knauber, M.D., Tower City, Pa., to Miss Clara A. Woolridge of Shamokin, Pa., at Reading, Pa., December 28.

Arthur Guy Trotter, M.D., Greenwood, Miss., to Miss Mary Mellet Provost Grayson of Westfield, N. J., January 4.

John McNeill Smith, M.D., Rowland, N. C., to Miss Roberta Olyvia Andrew of Harmon, Md., November 17.

Elias William Abramowitz, M.D., New York City, to Miss Anna Estelle Perlman of Brooklyn, December 26.

Lincoln Smith Hemmings, M.D., Cleveland, to Miss Hazel Scott of Cuyahoga Falls, Ohio, December 30.

John Charles Williams, M.D., to Alice Baldridge Lewis, M.D., both of New York City, July 24.

Frank F. Newell, M.D., Burlington, Wis., to Miss Marie Barney of Charlotte, Mich., January 5.

Cova R. Graham, M.D., Bryant, Ind., to Miss Hazel Jane Macklin of Geneva, Ind., January 1.

Paul William Aschner, M.D., to Miss Emily Robinson, both of New York City, January 4.

Clyde Martin Balsley, M.D., Joplin, Mo., to Miss Ruth Barr of New Orleans, January 2.

Deaths

Joseph Hendley Townsend, M.D. Yale University, New Haven, Conn., 1887; aged 53; a Fellow of the American Medical Association; secretary of the Connecticut State Board of Health; major and chief surgeon of the National Guard of Connecticut; a member of the Association of Military Surgeons of the United States and American Public Health Association; assistant secretary and treasurer of the Connecticut Medical Society; secretary of the New Haven Medical Association from 1893 to 1896 and president in 1897 and 1898; clerk of the New Haven County Medical Association from 1892 to 1901, vice president in 1901 and president in 1902; an active participant in civic and university affairs in New Haven; assistant in the medical clinic of his alma mater from 1890 to 1892, demonstrator of obstetrics from 1892 to 1894 and thereafter lecturer on hygiene; died at his home in New Haven, January 7, from pneumonia.

Achilles Rose, M.D. College of Physicians and Surgeons in the City of New York, 1872; aged 76; a member of the Medical Society of the State of New York, and a Fellow of the New York Academy of Medicine; for more than forty years a practitioner of New York City; well known throughout the United States as a philologist and purist in Greek; died in a private hospital in New York, January 10, from pneumonia. Dr. Rose was born in Ruhla, Germany, and came to this country at the age of 22. He was the author of several books and monographs advocating Greek as the universal language for physicians.

Robert Newton Willson, M.D. University of Pennsylvania, Philadelphia, 1897; aged 42; a Fellow of the American Medical Association and a member of the American Association of Pathology and Bacteriology; a specialist on diseases of the heart and lungs; author of several books dealing with sex hygiene; a member of the staff of the Philadelphia General Hospital; pathologist to the Presbyterian Hospital, Philadelphia, and in 1900 representative of the United States Government at the International Tuberculosis Congress in Naples; died in the German Hospital, Philadelphia, January 1.

Benjamin L. Millikin, M.D. University of Pennsylvania, Philadelphia, 1879; aged 64; a Fellow of the American Medical Association and American College of Surgeons; a member of the American Ophthalmological Society; formerly dean and senior professor of ophthalmology in the Western Reserve University, Cleveland; senior ophthalmic surgeon to the Lakeside Hospital and consulting ophthalmic surgeon to the Charity Hospital, Cleveland; died at his home in Cleveland, January 6.

LeRoy Dwight Farnham, M.D. College of Physicians and Surgeons in the City of New York, 1878; aged 65; of Binghamton, N. Y.; a Fellow of the American Medical Association and Binghamton Academy of Medicine and for several terms president of the Broome County Medical Society; president of the staff of the Binghamton City Hospital; died in Johns Hopkins Hospital, Baltimore, January 3, from cerebral hemorrhage.

John George Dearborn, M.D. New York University, New York City, 1858; aged 80; a member of the Massachusetts Medical Society; assistant surgeon in the Navy during the Civil War; from 1869 to 1872 surgeon to the Charlestown (Mass.) State Prison; for sixteen years school physician of Charlestown and for several years a member of the school committee; died at his home, January 4, from pneumonia.

Thomas Francis Kelleher, M.D. State University of Iowa, Iowa City, 1878; aged 60; a Fellow of the American Medical Association; president of the advisory board of Mercy Hospital, Des Moines and medical director of the American Life Insurance Company of that city; a leading member of the medical profession of Des Moines; died at his home in that city, January 3, from arteriosclerosis.

Charles Stanley Crane, M.D. University of Michigan, Ann Arbor, 1889; aged 53; a Fellow of the American Medical Association and a member of the House of Delegates from North Dakota at the San Francisco meeting; a specialist on diseases of the eye, ear, nose and throat, and a prominent practitioner of Grand Forks, S. D.; died in that city, January 1, from Addison's disease.

Frank Willard Grafton, M.D. Dartmouth Medical School, Hanover, N. H., 1896; aged 45; a Fellow of the American Medical Association and American College of Surgeons; assistant on the surgical staff of the Margaret Pillsbury

Hospital, Concord, N H, and attending physician at the Odd Fellows Home, Concord, died in that city, November 15, from septicemia due to an infection from the prostate gland

John Butler Dodge, M D University of Michigan, Homeopathic Medical College, Ann Arbor, 1880, aged 57, a member of the Michigan State Medical Society, for twenty-three years a practitioner of St John's, Mich, city health officer and physician of Clinton County, died in the Harper Hospital, Detroit, January 5, from disease of the intestines for which an operation had been performed a week before

Charles Zeigler Weber, M D Jefferson Medical College, 1882, aged 59, a member of the Medical Society of the State of Pennsylvania, and for six years secretary of the Montgomery County Medical Society, a member of the staff of the Norristown Hospital and physician for the Montgomery County Prison for ten years, died at his home in Norristown January 3, from pneumonia

Joseph Franklin Condon, M D University of Michigan, Ann Arbor, 1892, aged 49, a Fellow of the American Medical Association, surgeon to the Colorado and Southern Railroad at Breckenridge, Colo, health officer and coroner of Summit County and town physician, died in a hospital in Leadville, Colo, December 5, from diabetes

James C Dougherty, M D Baltimore University, 1898, aged 43, a private and acting hospital steward in the Hospital Corps U S Army, during the Spanish-American War, a Fellow of the American Medical Association, on duty in the U S Army Transport Service at San Francisco, died in that city, January 5, from heart disease

William Byrd Tate, M D Medical College of Georgia, Augusta 1884, aged 56, a member and once vice president of the Medical Association of Georgia, a trustee of the Ninth District Agricultural College near Clarksville, and a prominent practitioner of Pickens County, died at his home in Tate, Ga, January 6

Henry Thatcher Boutwell, M D Harvard Medical School, 1870, aged 71, a Fellow of the American Medical Association, for many years a well-known practitioner of Manchester, N H, but for the last few months retired on account of ill health and residing in Santa Barbara, Calif, died December 21

Henry Clement Hache, M D Kentucky School of Medicine, Louisville, 1893, aged 47, a Fellow of the American Medical Association and for twenty years an esteemed practitioner of Somerville, Mass, died January 8 in the Massachusetts General Hospital, Boston, where he had gone for an operation

Smith L Hogan, M D Memphis (Tenn) Hospital Medical College, 1903, aged 48, of Pottsboro, Texas, a Fellow of the American Medical Association and a well-known practitioner of Grayson County, Texas, was shot and instantly killed by his brother-in-law in Pottsboro, Texas, January 2

Leonard Hughes Robinson, M D Washington University, St Louis, 1907, aged 30, of Warrensburg, Mo, died at the home of his father in the city, December 31, from the effects of a gunshot wound of the heart, self-inflicted, it is believed, with suicidal intent, while despondent on account of ill health

Robert Gray Kinnier, M D Jefferson Medical College, 1880, aged 60, for several years chief medical examiner for the John Hancock Life Insurance Company, died at his home in Philadelphia December 31, from spinal disease as the result of an injury sustained nine months before

Walter Leander Capshaw, M D St Louis University, 1907, aged 30, professor of anatomy in the Oklahoma University, Norman, and health officer of Cleveland County, a member of the Oklahoma State Medical Association, died at his home in Norman, Okla, December 25

Richard Francis O'Connell, M D Georgetown University, Washington, D C 1894, aged 47, formerly superintendent of the State Hospital for Epileptics, Gallipolis, Ohio, but for the last six years a practitioner of Columbus, Ohio, died at his home in that city, January 5

Frederick Douglas Shepard, M D University of Michigan, Ann Arbor, 1881, aged 60, a missionary of the American Board of Commissioners for Foreign Missions in the Central Turkey Mission at Aintab since 1882, died in Aintab, January 11, from typhus fever

Robert Emmitt McCauley, M D College of Physicians and Surgeons in the City of New York, 1871, aged 71, a veteran of the Civil War, for many years local surgeon for the Pennsylvania System at Apollo, Pa, died at his home in that place, December 23

James C Dignan, M D Ohio Medical University, Columbus, 1896, aged 41, who fell from a ladder in his office in Wellington, Ohio, December 17, suffering severe cuts and bruises, died at his home in Elyria, Ohio, January 5, from cerebral hemorrhage

Abraham J Van Heekeren, M D University of Bonn, Germany, 1853, aged 88, for twenty-five years a resident of Portland, Ore, and prior to that a practitioner of Paris, France, and Sydney, Australia, died at his home in Portland, Ore, December 29

Edward Beach Crowell, M D College of Physicians and Surgeons in the City of New York, 1853, aged 86, for a few years a practitioner of medicine in Paris, but later an attorney of New York City, died at his home in New Brighton, Staten Island, January 2

Edward Charles Kroos, M D New York University, New York City, 1892, aged 53, a Fellow of the American Medical Association and a resident of Brooklyn for more than twenty-five years, died at his home in that city, December 30, from pneumonia

William Plattfaut, M D University of Wurzburg Germany, 1879, aged 61, a member of the Ohio State Medical Association and one of the leading practitioners of Dayton, Ohio, died at his home in that city, January 1, from pulmonary edema

George Washington Burket, M D Western Reserve Medical College, Cleveland, 1857, Bellevue Hospital Medical College, 1867, aged 83, a member of the Medical Society of the State of Pennsylvania, died at his home in Tyrone, Pa., November 2

Matthew Bonner Flinn, M D New York Hygeio-Therapeutic College, New York City, 1865, aged 72, for many years a practitioner of Worcester, Mass, died at the home of his daughter in Oakland, Calif, October 5, from cerebral hemorrhage

Dosson Lycurgus McIlravy, M D New York University, New York City, 1880, aged 63, for many years a practitioner and druggist of Magnolia, Ohio, died at the home of his sister in Des Moines, Iowa, December 22, from cerebral hemorrhage

Harry Charles Vaught, M D University of Pittsburgh, 1909, aged 34, a Fellow of the American Medical Association, a well-known practitioner of Sharpsburg and Aspinwall, Pa, died at his home in Aspinwall, January 5, from pleuropneumonia.

Lyman Louis Deck, M D University of Michigan, Ann Arbor, 1878, aged 65, a well-known ophthalmologist of Salamanca, N Y, and health officer of the city, a director of the Salamanca Trust Company, died at his home, January 3

Arnold Gustave Leo, M D College of Physicians and surgeons in the City of New York, 1895, aged 43, a member of the Medical Society of the State of New York, died at his home in New York City, December 31, from heart disease

Leora Johnson, M D State University of Iowa, College of Homeopathic Medicine, Iowa City, 1890, aged 59, clinical assistant and anesthetist to the hospital connected with her alma mater, died at her home in Iowa City, December 29

St. Elmo Rutledge Glover, M D Medical College of the State of South Carolina, Charleston, 1911, aged 28, at one time city physician of Charleston, S C, died in the St Francis Xavier Infirmary in that city, December 25

Christopher C Burke, M D New Orleans School of Medicine, 1860, aged 78, a practitioner of Texarkana, Texas, since 1878, alderman, mayor and member of the local school board, died at his home in Texarkana, December 26

Bunyan S Ezell, M D Tulane University, New Orleans, 1893, aged 45, a member of the State Medical Association of Texas, died at his home in Kosse, Texas, November 11, after an operation for the removal of gallstones

Charles Grove Sprinkel, M D Starling Medical College, Columbus, Ohio, 1894, aged 48, a practitioner of Effingham, Kan, died in St Joseph's Hospital, Kansas City, Mo., December 19, after an operation for appendicitis

Ephraim Koch Blanck, M D Jefferson Medical College, 1873, aged 64, formerly of Reading, Pa, for nearly a quarter of a century postmaster of Vinemont, Pa, died at his home in Vinemont, December 20, from heart disease

James L Trimm, M D University of Alabama, Mobile 1881, aged 64, one of the oldest practitioners of Tuscaloosa Ala, formerly a druggist and practitioner of Northport, Ala died at his home in Tuscaloosa, December 18

Howard G Bonwill, M D Jefferson Medical College, 1886, aged 53, died at his home in Camden, N J, January 3, from disease of the throat for which he had recently undergone operation at the Philadelphia Hospital

Daniel C Wilson (license Missouri, 1883), aged 76, said to have been a practitioner since 1869, a veteran of the Civil War, of Marysville Mo, died at the home of his sister-in-law in West Alhambra, Calif, December 17

Orie Pottinger McHenry, M D Eclectic Medical Institute, Cincinnati 1886, aged 54, coroner of Butler County, Ohio, for two terms, died at his home in Hamilton, Ohio, December 29 from cerebral hemorrhage

Thomas Lee Bondurant, M D University of Pennsylvania, Philadelphia, 1857, aged 81, a veteran of the Civil War and for many years a practitioner of Mount Vinco and Garrett, Va, died in Dillwyn, Va, December 30

James A Hutchinson, M D Cincinnati College of Medicine and Surgery 1878, aged 76, a veteran of the Civil War, and since 1871 a resident of Salamonia, Ind, died at his home in that place, January 5

Charles A Ware, M D Medical College of Virginia, Richmond 1863, aged 74, for forty years a practitioner of St Louis, died at the home of his sister in Berryville, Va, December 23 from heart disease

William Baker Banks, M D Medico-Chirurgical College of Philadelphia 1891, aged 66, a Fellow of the American Medical Association, died at his home in Philadelphia, December 28 from pneumonia

George W Kester (license, Ohio 1896), aged 78, of Shiloh Ohio, a veteran of the Civil War, was struck by a passenger train and instantly killed, at a grade crossing in Shiloh, about December 27

Thomas E Tomlinson, M D University of Tennessee, Nashville, 1878, aged 58, a member of the Missouri State Medical Association, died at his home in Morley, Mo, January 3, from pneumonia

James J McMahon, M D Detroit Medical College 1880, aged 67, for six years county physician of Wayne County, Mich died at his home in Detroit, December 25, from cerebral hemorrhage

Jackson M Gilbert, M D Tulane University 1860, aged 87, formerly a member of the State Medical Association of Texas died at his home in Louisville, Texas, November 17, from myocarditis

John Dickenson Puffer, M D Rush Medical College 1889 aged 61, for twenty-five years a practitioner and druggist of Ashland, Wis, died at his home in Ashland, December 25, from pneumonia

William Corns, M D College of Physicians and Surgeons Keokuk, Iowa 1863, aged 81, coroner of Tama County, Iowa, for several terms, died at his home in Tama, December 20

Pasquale Felitti, M D Eclectic Medical College of the City of New York, 1898, aged 46, for twenty years a physician and druggist of New York City, died at his home, December 25

Arthur Linwood Reeve, M D Long Island College Hospital Brooklyn, 1896, aged 45, died at his home in Brooklyn, January 4 from the effects of a self-inflicted gunshot wound of the head

Leonard Kip VanDyck, M D Albany Medical College, 1915 aged 25, senior medical intern in St John s Hospital, Brooklyn died in that institution, December 30, from pleuropneumonia

Edmond Emmett Ryan, M D Milwaukee, Wis, Medical College 1900 aged 48 died at his home in Milwaukee December 30, from pneumonia following an attack of influenza

Michael B Garver, M D Homeopathic Hospital College, Cleveland 1871 aged 72, a veteran of the Civil War, died at his home in Ephrata Pa, January 1 from cerebral hemorrhage

Middleton E Pickens, M D Detroit College of Medicine and Surgery 1906 aged 39, an esteemed colored practitioner of Muskogee Okla, died at his home, December 30

Robert Manson Murray, M D Vanderbilt University, Nashville Tenn., 1881 aged 55 died at his home near Trezevant, Tenn December 23, from cerebral hemorrhage.

Edward M Talbott, M D University of Louisville, Ky., 1857, aged 87, a Confederate veteran a well-known practitioner of Cotulla Texas, died at his home, December 23

Richard G Stretch, M D University of Pennsylvania, Philadelphia, 1869, aged 74, of Philadelphia, died in the German Hospital in that city, January 4, after an operation for appendicitis

Charles Marion Hollopeter, M D State University of Iowa, College of Homeopathic Medicine, Iowa City, 1890, aged 64, died at his home in Portland, Ore, December 30

Adolph P Johnson, M D Rush Medical College, 1891, aged 41, formerly of Tacoma, Wash, died at his home in Alhambra, Calif, about December 26, from nephritis

William N L Armstrong (license, Kentucky, 38 years of practice, 1898), aged 87, died at his home, Pye's Hill, Latonia, Ky., December 30, from senile debility

Warren B Palmer, M D Albany (N Y) Medical College, 1880, aged 58, of Brooklyn, died in the Prospect Heights Hospital, Brooklyn, January 7, from pneumonia

David Arthur Sims, M D Vanderbilt University, Nashville Tenn 1887, aged 65, of Fort Smith, Ark, died in St Joseph, Mo December 20, from pneumonia

W A Priest, M D Miami Medical College, Cincinnati, 1872, aged 71, a pioneer practitioner of Southwestern Iowa, died at his home in Emerson, Ia., December 24

Mordecai Myers Willson, M D Detroit College of Medicine and Surgery, 1889, aged 50, died in his apartment in Des Moines, Iowa, January 5, from influenza

George Denholm Brownlee, M D Tulane University, New Orleans, 1887, aged 63, died at his home in Mokelumne Hill, Calif, December 9, from cerebral hemorrhage

Augustus Ahlborn, M D Michigan College of Medicine and Surgery, Detroit, 1890, aged 49, died at his home in Eloise Mich., December 25, from pneumonia

Alexander O Spence, M D Western Reserve University, Cleveland 1890, aged 58, died at his home in Cleveland Heights Ohio December 30, from influenza

Emmett J P'Pool, M D University of Nashville, Tenn., 1875, aged 69, a member of the Arkansas Medical Society, died recently at his home in Forrest, Ark

James K Denman, M D Columbus, Ohio, Medical College, 1876, aged 64, died at his home in Sherwood, Ohio, December 30, from cerebral hemorrhage

John Hampden Maxwell, M D Jefferson Medical College, 1854, aged 84, of Greenville, S C, died at the home of his nephew in Atlanta, Ga, December 30

John L Beavers, M D Tulane University, New Orleans, 1868 aged 76, of Wesson, Miss, died in Jackson, Miss, January 4 after a surgical operation

William Sigsbee, M D Castleton (Vt) Medical College, 1852, aged 87, a practitioner of Illinois since 1868, died at his home in Mendon, Ill, January 1

Charles L Hale, M D Chicago College of Medicine and Surgery 1913, aged 28, died at his home in Oak Grove, Ark, December 23, from pneumonia

Samuel V Horner, M D University of Tennessee, Nashville 1886, aged 66, died at his home in St Clair, Tenn, November 18 from pneumonia

Hiram Carnahan, M D Rush Medical College, 1860, aged 85, of Compton, Ill, died at the home of his daughter in Mendota Ill, January 3

Sylvester A Coffman, M D Beaumont Hospital Medical College, St Louis 1888, aged 57, died at his home in Franklin, Kan December 20

Jesse William Thatcher, M D Hahnemann Medical College Philadelphia, 1871, aged 65, died at his home in Philadelphia, December 29

John A. Jacobs, M D American Medical College St. Louis, 1874 aged 70, died January 4, at his home in Mount Lebanon, Pittsburgh

Howard M Lawrence, M D Tulane University, New Orleans 1892, aged 48, died at his home in Longview, Texas December 21

Henry H Lowrie, M D Georgetown University Washington D C 1863, aged 74, died at his home in Plainfield, N J January 3

George Evelyn Morgan, M D Hahnemann Medical College Philadelphia 1871, died at his home in Austin, Chicago, December 23

John Sibbald, M D Jefferson Medical College 1875, died at his home in Fox Chase, Philadelphia, December 29

Louis A Kelly, M D Jefferson Medical College 1878, died recently at his home in Pittsburgh

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

THE SHERLEY AMENDMENT CONSTITUTIONAL

How Some Newspapers View the Supreme Court's Decision

Last week THE JOURNAL referred editorially to the decision handed down by the Supreme Court of the United States declaring the Sherley amendment to the Food and Drugs Act constitutional This decision is of the highest importance to the welfare *of the nation The following quotations* are typical of the editorial opinions of newspapers on the subject

NEW YORK TRIBUNE

It is well that the supreme court has established the validity of the Sherley amendment to the pure food and drugs act for without it there would be *no* way of dealing with some of the most pernicious frauds on the market To understand the importance of the amendment we have only to recall a decision of the supreme court in a case that was brought before it in 1911 There was no denying that the remedy in question was fraudulent it is sufficient to say that it was one of the many so-called cancer cures But the question to be decided was, in effect, whether, under the food and drugs act a manufacturer or vender was at liberty to lie about the virtues of his preparations The supreme court decided that he was, that the law, in fact, was "aimed not at all possible false statements, but only at such as determine the identity of the article, possibly including its strength, quality and purity"

Obviously those who framed the act meant it to be much more comprehensive—comprehensive enough at least to control fraudulent remedies—but by this decision their purpose was utterly defeated There was no longer any way of disciplining those who put up cancer cures tuberculosis cures or diabetes cures *provided* they did not lie about the ingredients *of their precious* mixtures In the case of the cancer cure the supreme court admitted "in a certain sense the statement on the label was false, or at least misleading," but by some odd legal turn the falsity was condoned on the ground that it was apparent not in point of established or demonstrable fact, but only in the "commendatory and *prophetic aspect*"

The practical consequences of such nice legal subtleties can readily be imagined One who shipped Croton water as mineral water would be liable under the act, but if instead of specifying its source he contented himself with labeling it a sure cure for *consumption* or Bright's disease, the law *could not touch him*, because he had confined his lying to considerations that were merely "commendatory and prophetic" Clearly, then, by this decision all hope of regulating the traffic in fraudulent remedies was blasted The quacks were free to lie as much as they pleased as long as they did not misrepresent the contents of their bottles and packets

As soon as this important fact had been established Mr Sherley of Kentucky proposed an amendment "to make the pure food law embrace those cases of interstate shipments of worthless medicines and drugs *fraudulently* held out to the public as possessing curative properties" The amendment was *approved* by the House Committee on Interstate and Foreign Commerce, and since then the rascals who prey on the sick have done their best to defeat it, on the ground that Congress had exceeded its powers

In the lucid decision handed down by the supreme court it is *established* that there is "no ground *for* saying that Congress *may* not condemn the interstate transportation of swindling preparations designed to cheat credulous sufferers, and make such preparations, accompanied by false *and* fraudulent statements, illicit with respect to interstate commerce, as well as for example, lottery tickets"

Thus it is at last determined that the quacks and impostors are to be held in check and that swindling will no *longer* be tolerated on the prophetic score—(Jan 12, 1916)

NEW YORK EVENING MAIL

The United States Supreme Court, after a legislative and judicial battle which has lasted *for ten years*, has signed the doom of the cure-all, which extorts money from the poor and then but too frequently kills them It has ruled that *Congress*, in attaching the Sherley amendment to the pure food and drugs act, had *adopted* a measure as valid and reasonable as the exclusion of the *lottery traffic from the* mails and from interstate commerce Under the provisions of the Sherley amendment the practice of misbranding and misrepresentation of the contents or properties of drug preparations is prohibited and made punishable As false representations of the power to cure is the main stock of the charlatans who trade in the credulity of fools or unfortunates, the decision of the court will constitute a death blow to the entire traffic in human lives

America *for* many years has been the paradise of the swindler who puts alluring labels on preparations which are either impotent to cure disease or positively destructive of health and life. *This swindler, the meanest* of his tribe because he exploits the most vital instinct of mankind—the *instinct of life-preservation—will* now find his paradise closed to him and the law will stand with a *flaming sword* at the gate to see that he does not return—(Jan 12, 1916)

CHICAGO EVENING POST

The Sherley amendment to the pure food law has been sustained by unanimous decision of the supreme court, voiced in an *opinion* that was written by Justice Hughes

The amendment forbids misbranding of food products or drugs and has been a thorn in the side of unscrupulous manufacturers who sought to foist worthless wares on the public under promises of impossible performance Misbranding, by the court's decision, is held to apply to false claims for the virtues of an article, such as the curative value of a so-called remedy, and to include pamphlets or circulars distributed with the package in which the article is contained as well as the wording on the actual label

By thus sustaining the law and giving it broad interpretation the court has made it an effective instrument for the prosecution of fakers and the protection of honorable manufacturers The people have now a weapon with which they can fight those who prey on the fears engendered by disease or profit by the ignorance of the public and its gullibility

Gradually, by sentiment and by law, the way of the transgressor in business is being made so hard that *many feet* are constrained to avoid it, and the principle of public security against the impositions of greed is being established as a function of government—(Jan 13, 1916)

CHATTANOOGA TIMES

The Supreme Court of the United States, in a *decision just handed down, has struck a solar plexus blow to a large* and hitherto prosperous line of patent medicines In effect the court sustains the act of Congress which undertook to regulate statements as to the curative effects of medicines in interstate commerce The question came before the court in a case from the federal district court of Nebraska, wherein stuff had been shipped from Chicago to Omaha accompanied by labels and circulars describing it as a compound which the proprietors and makers "knew had cured and would cure consumption" The alleged medicine had been *seized* and confiscated under the Sherley act of 1912, which *prohibited* "any misstatement either *on the label or on printed* circulars accompanying medicines" In other words, it will be unlawful hereafter for patent-medicine makers to label their goods as "sure cures" for anything, and as the labels on these medicines and the accompanying circulars constitute about the only virtue of most of them, the business of the large *majority* of them is going to be very properly interfered *with*

The justification for such a law is that the government has a right to and should protect the people against fraud and swindling carried on under its interstate commerce regulations or through its *mail* service *Such patent medicines as may have real virtue* will not suffer for these do not depend altogether upon the advertising they get for their popular use, but upon the curative value of the compound The fraudulent kind—and the most of them are that—will be finally compelled to go out of business—(Jan 12, 1916)

THE NATION

The *Supreme* Court's decision upholding the amended Food and Drugs Act deals another heavy blow to the quacks and swindlers who prey on the credulity of the ignorant and the tendency of the sick to grasp at any straw As the law originally stood, it condemned only those who misstated the compounds of patent decoctions That bore harshly enough upon those who were compelled to confess to 60 per cent alcohol and 40 per cent commonplace and obviously harmful drugs in some wonder-working bitters or root extract It did not reach those who, like the makers of the "Alterative" which figured in the case just closed, could find a profitable market among illiterate or careless people who overlooked the table of compounds while swallowing the assurances of a cure for pneumonia or tuberculosis Justice Hughes states that the Supreme Court sees no difference between the "interstate transportation of swindling preparations designed to cheat credulous sufferers," when accompanied with false and fraudulent statements, and the interstate transportation of lottery tickets There is no difference It cannot be said, for example, that the makers of such medicines have the right to "express an opinion" as to the virtues of their alleged curatives in such form as to constitute a definite promise of results absolutely impossible of realization—(Jan 13, 1916)

Correspondence

Dr Crile's Kinetic Drive

To the Editor—In the address entitled "The Kinetic Drive," which was delivered recently before the Academy of Medicine of New York and published in The Journal (Dec 18, 1915, p 2129) the inceptor of the "kinetic system" theory explains the operation of this principle as a major factor in the causation of diverse diseases, and describes the application of the theory to the prevention and cure of these diseases

The author of the theory has on another occasion conventionally expressed the expectation that this theory will in the course of time "doubtless be subjected to many alterations" Few, indeed, there will be among the readers of this address to whom a thought of this kind will not come, namely, that the modifications which this theory must undergo will be something more than the mere usual matter of course We even venture the opinion that in receiving this latest presentation, many readers will question whether or not the very nucleus of the theory deserves to be countenanced

The theory and its proposed application cannot at this time be subjected to a detailed critical review, as this has been forstalled by the author himself in that he has so far withheld the publication of the complete experimental evidence for it As yet the evidence has been merely hinted at in detached portions though the theory, in something like its present form, was enunciated at least two years ago To be sure, an account of some operative applications of the theory are given in this address, but we dare say that the author himself would hardly stake the acceptance of his theory on the impression made by his recital of operative results in this address—though elsewhere in his writings we read "No theory is worth more than its yield in practice" For example he cites the case of one diabetic rendered sugar free by the Allen treatment and then subjected to the following surgical procedures (1) section of the right cervical sympathetic, (2) excision of the left suprarenal, and (3) excision of the left cervical sympathetic with partial thyroidectomy In the meantime the patient continued on the Allen treatment, gained 4 pounds in weight and gained in sugar tolerance The final comment is made that "to obtain the surgical net result we must subtract from this striking improvement the undetermined factor of the Allen treatment" The Allen treatment is no longer an 'undetermined factor" in rendering most diabetic patients sugar free and raising their sugar tolerance, at least for a considerable period If, then, we subtract the well-established factor of the Allen treatment in this case, what appears to be left as a 'surgical net result" is the mutilation of the patient

But even though they have been denied his complete evidence for the theory thus far those readers who weigh the present address will find enough in its revelation of the author's scientific methods and general attitude of mind to enable them to begin an 'evaluation" of the theory without further delay Is it not probable that the formulation of the theory has been attended by the same easy-going scientific judgment and by the misapplication of true scientific data that are manifested here? And what confidence is to be placed in the author's own fund of laboratory data that we have been tantalized with so long? A few examples of the author's methods and judgment will suffice to justify our intimation of these misgivings

We read "Reasoning from the secure facts of the clinic and the less secure data of the laboratory, etc" This has very much the ring of an attempt to play on a certain prejudice that he assumed—we trust errantly—his readers entertain, too But supposing that we were not to lay such a stricture on that utterance, we might, then, expect one who holds such an estimate of laboratory data to be very circumspect in the use he makes of them But what do we behold in fact? He snatches on such laboratory data as suit his views without using any critical discrimination, or without weighing the value of contrary data, no matter of how long standing, or of how good repute Who but this author has so casually taken up as a demonstrated fact the recent isolated attempt to show that the nerve impulse is an electric current—despite the fact that practically all the recent work in that line points to the nerve impulse as primarily a chemical process? It serves his theory of anesthesia and also a notion which he holds about the effect of thyroid secretion on nerve tissue, to regard the nerve impulse as an electric current—so out on your finickiness about demonstrated principles!

Less arbitrary, perhaps, though of more serious consequence, is his unhesitating acceptance of other laboratory findings before they are definitely established, for example in the matter of secretory nerves of the thyroid gland The extremely complex question of the physiology and pathology of the thyroid glands becomes simplicity itself to Dr Crile by the serene assumption that thyroid hyperplasia and alleged hypersecretion are due to an overdischarge of impulses through hypothetic secretory nerves Dr Crile must be conversant with the fact that when the conditions in the body are such as induce thyroid hyperplasia, the development of this hyperplasia takes place wherever a piece of thyroid may be lodged in the body and irrespective of nerve connections Since all thyroid disorders are due to the "kinetic drive" via the secretory nerves, what can be more logical than to cure these disorders by section of the nerves? But unless we are greatly mistaken, this method of controlling exophthalmic goiter has already been tried and found wanting by French workers

But a feature that will do most to break down whatever regard the readers of this address may have had heretofore for the author's speculations is his allusion to Osterhout's work Because Osterhout has found that iodin causes an increased permeability of living vegetable tissue to the passage of electricity the positive conclusion is drawn that the thyroid secretion has the same effect on the cells of the animal organism It being settled in the author's mind that the nerve impulse is a discharge of electromotor force, the role of the thyroid secretion is plain to him it makes the irritable tissues of the organism more susceptible to nervous excitation by facilitating the passage of electric currents *into them* Now, Professor Osterhout is a botanist who has been pursuing some studies, of great value to plant physiology and general biology, on the effect that various *inorganic* compounds have on the permeability of vegetable cells by an electric current He found that sodium iodid, which by dissociation yields iodin ions increases the electrical permeability of vegetable cells But he also found that sodium chlorid and other inorganic compounds have similar effects thus the effects are hardly peculiar to iodin He has made no tests with *organic* iodin compounds, and especially none with iodothyrin or thyreoglobulin for these effects Our author must therefore have found in the behavior (which was not at all unique) of dissociable iodin in Osterhout's experiments a proof of similar behavior of *undissociable iodin, organically bound* or "masked" in thyroid constituents, a similarity which even a tyro in modern biochemistry should know better than to expect According to the present status of our knowledge *of physical chemistry*, the application of Osterhout's work to such an explanation of the action of thyroid secretion is well nigh unthinkable Ascribing to thyroid secretion such an influence as raising the electrical conductivity of tissues appears, then, as a product of most superficial reasoning

It is stated, also on the basis of some very facile reasoning, that adrenin and oxygen combine with constituents of certain brain cells, and further it is explained that this combination "causes the electrical discharge that produces heat and motion" We are told that strong nervous activity causes abnormally great discharges of adrenin and of thyroid secretion, and these in turn still greater nervous activity It might be wondered why this continuous acceleration in rondo form does not drive the animal engine to complete destruction It is the resultant acidosis that comes to the rescue Through it a check is put on the drive thus A nerve impulse being an electrical discharge, the nerve impulses from the brain depend on a difference of electrical potential between the brain and the end-organs, and the potential difference depends on a difference of chemical reaction between these two points now when acidosis arises and raises the acidity in the brain, this difference of potential becomes impossible and hence the nervous discharges from the brain become weaker and finally fail The behavior of the cells of the respiratory center, however, is a complete antithesis to that of the brain cortex cells, so far as the influence of acidity on them is concerned Though with rising acidosis there should also be an approach to equalization of potential between the respiratory center and the respiratory muscles, here diminishing differences of potential is followed by more powerful nervous (electrical) discharges to the respiratory muscles! Do physicists know of anything to parallel this, like conditions associated with completely contrasted effects, or will the author's experimental data—whenever they appear—also disclose the surprising fact that nervous impulses which leave the respiratory center, and for that matter, too, all afferent nervous impulses, are quite different fundamentally from those that are discharged from the cerebral cortex? One might also ask this author how, with his conception of the nerve impulse as a discharge of electrical energy, which in the end-organ sets off a greater discharge of energy, he accounts for the undoubted nervous inhibitory processes, but such a query is precluded by the singular habit he has of using the word "inhibition" as though synonymous with "paralysis" or "abolition of function"

The suprarenals constitute one of the mainstays of the "kinetic drive" Unless we are mistaken Dr Cannon does not dignify the excess discharge of adrenin and slight temporary glucosuria that may be induced by strong emotional stimulation even as a *minor ailment* On the contrary, he looks on it as an admirable device by Nature to preserve the life of the individual If any one has the evidence that even the greatest possible emotional "drive" of the suprarenals is a primary factor in any disease, the world is certainly entitled to know it

As for the attempt to bring such a wide range of diseases together into a group to which a single factor, the "kinetic drive," is assigned as the essential cause, this will probably be resisted by the "diehards" with the same show of obstinacy that they are yet presenting to certain other theories of disease that also have the advantage of simplicity Especially the workers in diabetes, who have been led on so long by the idea that distinctive factors are involved in this disease, will be loath to acknowledge that they have been making a mountain out of a molehill

But we wished to concern ourselves in this commentary principally with pointing out the fallacies and facile assumptions that are used to explain the modus of the "kinetic drive" We may be met with the rejoinder that these failings do not necessarily invalidate the theory as a whole This we admit But there is little that can be engaging about a mere theory that is explained in terms of simpler processes that are at variance with reality, or, at least, are not known to be true One cannot, therefore, now continue in an attitude of openmindedness toward it Dr Crile intimates repeatedly that only a fraction of his laboratory and clinical evidence in support of his "kinetic theory" has so far been reported We submit that, under the circumstances, the publication of *all* this evidence is overdue

A J Carlson, Ph D,
Associate Professor of Physiology, University of Chicago
Albert Woelfel, M D,
Instructor in Physiology, University of Chicago, Chicago

[The foregoing communication was referred to Dr Crile, who replied]

To the Editor —A considerable part of the communication of Professor Carlson and Dr Woelfel does not relate to the subject-matter of my paper Since the part that so relates concerns details, not the principle of my thesis, I will comment only on the principal points in their discussion

1 The Case of Diabetes Surgically Treated It is now seven months since our diabetic patient received the tentative surgical treatment mentioned in "The Kinetic Drive" For two and one-half months he has been in a sanatorium receiving the dietetic and hygienic treatment for tuberculosis During this time he has not received the Allen treatment During six months in Lakeside Hospital before the day of operation he was never sugar-free *He is at present sugar-free* Even though this fortunate result were a mere coincidence, what bearing would that have on the kinetic theory?

2 As to the Nature of Action Currents It is worth while to mention that the positive statement accredited me by Professor Carlson does not appear in my text Even if the action currents were chemical only, and not electric, what bearing would that have on the validity of the kinetic theory? But the point is arguable Professor Carlson apparently does not appreciate the significance of the work of that productive investigator, Ralph S Lillie, or of the evidence regarding action currents secured by the use of the Einthoven string galvanometer Apparently he has not taken into account the electric insulation of nerve fibers or the chemical difference between the axis cylinder and the medullary sheath, or the fact that electric stimulation of muscles and organs alone induces functional activity identical with that produced by action currents, or that electric currents are absent alike in skeletal muscles and in motor plants under anesthesia and in death He has evidently overlooked the facts that the chemical activity which, as Tashira has shown, occurs simultaneously with action currents, may well be the evolved method by which the electric charge is transmitted unchanged, and that the leading phenomena of nerve cell action are in accord with the process by which electricity is generated in a battery He apparently has not taken into account the viewpoint of physicists that chemical action is but a phenomenon of electric action, that all matter and all force are only manifestations of the play of electrons, of which in an ultimate analysis all matter consists, and that therefore even the heat as well as the light of his own exposition are electric phenomena

3 It is interesting to note that Professor Carlson invented the statement attributed to me that the thyroid is stimulated *only* through its nerve supply Obviously, the thyroid may be stimulated by hormones or by chemical agents, but I am willing to challenge Professor Carlson's implication that the work of the thyroid is not also modified through the nerves which are abundantly supplied to *(a)* the walls of the blood vessels and *(b)* the bases of the acini This anatomic fact points to function as certainly as horns or hoofs or wings point to function But there is other evidence as well *(a)* Emotional stimuli may cause an immediate swelling of the gland, these stimuli travel over nerve paths before they stimulate the thyroid directly or indirectly through hormone action, *(b)* in exophthalmic goiter the diminution of stimuli (rest cure) often is followed by a marked decrease in the size of the thyroid and in the symptoms of the disease *(c)* many surgeons believe that part of the obvious benefit resulting

from ligation of the superior thyroid arteries is due to the interruption of the nerves running in the vessel wall because (1) the division of the cervical sympathetic alone probably has clinical merit, (2) in a few weeks after ligation of the superior thyroid arteries the gland at the upper pole is as vascular as before and little or no histologic change is seen, while the patient is better, (3) the patient with bilateral ligation—producing nerve block as well as closure—of the superior thyroid arteries endures the following kinetic drives with lessened thyroid or general phenomena—emotion infection surgical operation, and finally, even if the rich nerve supply to the thyroid had nothing to do with its function and the thyroid acted chemically like the lungs or the liver, what possible bearing would that have on the validity of the kinetic theory ?

4 Iodin The illuminating work of Professor Osterhout is well known to surgeons They hold that some of the most significant work of the day as applying to their problems has been done by plant physiologists, by physicists and by physical chemists, that physiology is but a temporary bridge for communication between surgery and physical chemistry, that when surgery has crossed that bridge it will make terms with physical chemistry directly Professor Carlson's conception of Professor Osterhout s significant work seems to me to be wholly inadequate Since other chemical agents besides iodin have produced increased electric permeability, Professor Carlson seems to think that therefore the processes of adaptation through natural selection could not have evolved in the animal body a gland adapted to the special metabolism of iodin but that such a gland must also metabolize sodium, he implies that since iodin is *biologically adapted* to the animal organism it ought to act with equal effect on the *unadapted* plant. Professor Carlson has evidently overlooked that great principle in physical chemistry introduced by Ehrlich, i e., that to carry the heavy molecules of metals such as silver arsenic, antimony and mercury into living cells, it is necessary to combine them with other chemical agents that have an affinity for the living protein molecule Physical chemists have used this as a chemical weapon in attacking certain problems of therapeutics Equally may the sphere of iodin though not a heavy metal be increased by the special gift of the thyroid The work of Kendall in the Mayo Clinic adds to this probability I had supposed it was well established at least in the minds of clinicians, that the specialized iodin fabricated by the thyroid measurably controlled the rate of metabolism of the body, i e, it is a pacemaker of the *kinetic system*

5 Adrenin If Professor Carlson can show (*a*) that adrenin does not cause increased metabolism, increased temperature, increased heart action, increased blood pressure sweating, increased respiration, increased mobilization of glycogen, increased acid excretion in the urine, that repeated large doses over short periods of time do not cause acute acidosis, that in repeated doses and over longer periods it does not cause myocarditis glucosuria, nephritis, certain degenerative changes in the walls of the blood vessels, etc , or if Professor Carlson can prove (*b*) that adrenin causes no change in the brain cells and no rise in the blood pressure when in a crossed circulation adrenin circulates in the brain only (an observation which, made in my laboratory, must stand as a pure direct adrenin action on at least a part of the brain cells) or if Professor Carlson can prove (*c*) that emotion foreign proteins infection, or exertion can cause no increased output of adrenin then and only then can he dissociate adrenin from its role as an activator of the kinetic system and as a potent factor in the phenomena of health and of disease, unless he believes that the phenomena of health and disease are unrelated or unless he holds a creationist point of view as to the origin of disease

6 Effect of H-Ions on the Brain Professor Carlson is of the opinion that the nerve cells of the cortex and the nerve cells of the respiratory center cannot react differently to acidosis, that is, to increased H-ion concentration of the blood For the sake of argument let us grant the premise that in the body an electric current flows from a higher toward a lower potential, i e, from the nerve cells to the muscles It is logical to suppose, then, that there has been evolved in the respiratory center a mechanism by which the potential is raised in response to increased H-ion concentration, and equally logical to suppose that the driving, energy-transforming, acid-producing cortical cells would be simultaneously depressed I am unable to agree with Professor Carlson that all tissue and all nerve cells respond alike to H-ion concentration For example The acid gastric juice has a selective action on the nerve mechanism of the pylorus If this nerve mechanism shows specific reaction to acid why may not other nerve tissue do the same? Again under inhalation anesthesia the H-ion concentration of the blood is increased, but cerebral action is *diminished*, respiratory action *increased*, in emotion, infection, exertion or injury, producing increased H-ion concentration, and in acidosis induced by the intravenous injections of hydrochloric acid and acid sodium phosphate, there are seen brain cell changes, these changes are most marked in the cerebral cortex, and least in the medulla here is direct evidence of a chemical difference in acid effect Again, the intravenous injection of acids causes *increased* respiratory action and *diminished* cerebral action—another example of the antithetic action of H-ions on the respiratory center and on the cortex It may be, however, that Professor Carlson does not accept one or more of the three following propositions (1) that increased H-ion concentration increases the activity of the respiratory center, (2) that increased H-ion concentration diminishes the activity of the higher centers, (3) that electricity flows from a higher to a lower potential

In closing I may repeat that nothing in medicine is worth more than its yield in practice, that laboratory data and theories as applied to medicine must take the crucible of the clinic where truth and falsehood are separated The kinetic theory has been thus tried on a large scale Up to the present time in my clinic the kinetic theory has proved true, as is evidenced (*a*) by the prevention and control of surgical shock, (*b*) by the treatment of peritonitis and other acute infections, (*c*) by the interpretation and increased control of acidosis, (*d*) by the operative and nonoperative control of exophthalmic goiter, and in general by the course of more than 10,000 surgical cases The kinetic theory harmonizes the phenomena of many diseases, and relates them to physical chemistry rather than to physiology

G W CRILE, M D , Cleveland

[Dr Crile s reply was referred to Drs Carlson and Woelfel, who state]

To the Editor —It is stated in the foregoing that our commentary does not touch the principle of the 'kinetic drive' theory, with reference to one or two particular points we are asked what bearing they have on the validity of the theory We have already stated plainly that our commentary does not purport to offer a direct refutation of the theory We have pointed out why that cannot be undertaken just yet and by whose course of action it is hindered, and we note with what silence our remonstrance against this course of action is passed over We reiterate also Our sole aim was to call attention to some of the forced assumptions and misapplications of experimental data that are necessary to explain the modus of the kinetic drive, believing that these faults alone are enough to warrant any one in questioning the standing of the theory

Our comments on the diabetic case were of course based on the data furnished in the address, the subsequent history of the patient does not call for a retraction of those comments We would not think it necessary to refer to the charges of misrepresentation made against us, believing that they may safely be left to the judgment of readers but one of the misrepresentations is said to touch on action currents' Our comment does not even mention action currents" We have discussed nerve impulses however In the face of other confusions of the issues—though they are not quite so glaring as that just pointed out—of the long series of rhetorical questions on the A B C's of physiology and biology, and of the overweight of irrelevancies in the rejoinder further response from us will hardly be expected

A G CARLSON, PH D
ALBERT WOELFEL, M D

Death Rates in the Registration Area

To the Editor —I notice in an editorial of The Journal, Jan 8, 1915, p 118, a quotation of the reduction in the tuberculosis rate in the registration area I have recently written an article on tuberculosis in which, among other things, I draw attention to the fact that this quotation of a reduction of death rate in the registration district is misleading

Constantly the point is made that the death rate in the registration area at present is very different from that which existed in 1880, and apparently those who quote these facts assume that this reduction in rate is due to a diminished number of deaths from disease

Such a statement would be true if the registration area of today were the same as that in 1880 As a matter of fact, however, in 1880 there were only three divisions in the registration area, namely, Massachusetts, New Jersey and the District of Columbia Every state which has been added to the registration area since 1880 has had a lower death rate at the time that it was added than existed in the three districts named Hence, the very addition of these states would reduce the death rate in the registration area

It is fair to quote the records of individual states to show the reduction in mortality rate from tuberculosis It is misleading to quote the difference in the registration area as an evidence of reduction of mortality

H M Bracken, M D, St Paul
Executive Officer, Minnesota State Board of Health

Queries and Minor Notes

Anonymous Communications and queries on postal cards will not be noticed Every letter must contain the writer s name and address, but these will be omitted, on request

COAGULATION TIME OF BLOOD

To the Editor —1 What is the most efficient, practical and simple method of estimating the coagulation of the blood?

2 What is the technic of the drop-on the slide method? X Y Z.

Answer —1 Coagulation time tests are described in all books on laboratory methods Almost all the methods described require special apparatus, an exception being a method described in the book of Webster This test is performed with a vacuum bottle and capillary tubes

2 The drop-on-the-slide method consists of collecting drops of blood on a slide and then holding the slide, blood drops beneath, over a vessel containing water at body temperature The slide is held in a vertical position from time to time, after coagulation has taken place the contour of the blood drop will not be changed by tilting the slide Duke's method is like this, except that by using a slide with uniform sized disks on it, uniform sized drops of blood can be obtained It has also been proposed, instead of observing the contour of the blood droplets, to dip the point of a fine capillary tube into them, as long as the blood is still fluid it will rise in the capillary tube

AMMONIUM HYDROGEN FLUORID

To the Editor —I would like some information regarding the therapeutic action of ammonium fluorid *The crystals of this compound* are used in an aqueous *solution for* the removal of stains and calculi from the teeth I would appreciate a formula for this use

Roland B Miller D M D, Lebanon, Ore

Answer —There are two ammonium fluorids, normal or "neutral" ammonium fluorid (NH_4F) and acid ammonium fluorid, ammonium *hydrogen* fluorid or ammonium bifluorid ($NH_4F \cdot HF$), a combination of one molecule of ammonium fluorid and one molecule of hydrogen fluorid (hydrofluoric acid) The latter appears to be the salt used in dentistry Ammonium hydrogen fluorid has been recommended for use as a solvent of tartar deposits on the dental enamel, and also as an amebicide in pyorrhea alveolaris, in the latter use it has been largely supplanted by emetin hydrochlorid

A formula said to be satisfactory is

Ammonium hydrogen fluorid	20 gm
Hydrofluoric acid (40 per cent)	10 gm
Water, enough to make	100 c c.

The mixture should be kept in a wax or gutta-percha bottle

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Iowa Des Moines, Feb 8 10 Sec, Dr G H Sumner, State House, Des Moines

Kansas Topeka, Feb 8 Sec, Dr H A Dykes, Lebanon

New York Albany, Buffalo, New York and Syracuse, Jan 25 28 Chief, Examinations Division, Mr Harlan H Horner, State Education Bldg, Albany

Vermont Montpelier, Feb 8 11 Sec, Dr W Scott Nay, Underhill

Washington July Report

Dr C N Suttner, secretary of the Washington State Board of Medical Examiners, reports the written examination held at Seattle, July, 6, 1915 The total number of subjects examined in was 11, total number of questions asked, 110, percentage required to pass, 75 The total number of candidates examined was 64, of whom 48 passed, including 8 osteopaths, and 16 failed, including 2 osteopaths and 2 chiropractors The following colleges were represented

PASSED

College	Year Grad	Per Cent.
California Eclectic Medical College	(1914)	84 5
College of Physicians and Surgeons, Los Angeles	(1914)	87 6
Cooper Medical College	(1909)	84 5
George Washington University	(1912)	88 8
Bennett Medical College (1912) 78 8, (1913) 89 5, (1915) 85 3, 86	(1914)	80 9,
Chicago College of Medicine and Surgery	(1915)	79 5
Hahnemann Med Coll and Hosp, Chicago (1895) 75,	(1910)	89 4
Northwestern University	(1911)	84 3
Rush Medical College	(1914)	88 9
University of Illinois	(1914)	80, 93 7
College of Physicians and Surgeons, Kansas City	(1904)	79 4
Kansas Medical College	(1913)	81
Johns Hopkins University	(1915)	82 4
University of Michigan Medical School	(1913)	92 6
University of Michigan Homeo Medical School	(1913)	89
University of Minnesota (1894) 75 5, (1914) 81 2,	(1915)	89 6
University Medical College, Kansas City	(1903)	89 6
Washington University (1901) 75,	(1911)	88 1
John A Creighton Medical College	(1915)	86 6
University of Nebraska	(1903)	84 7
College of Phys and Surgs in the City of New York	(1892)	81 5
University and Bellevue Hospital Medical College	(1899)	86
University of Oregon (1905) 81 4,	(1915)	76 2, 85 4
Jefferson Medical College	(1915)	84 5
Woman's Medical College of Pennsylvania	(1915)	90 6
Marquette University	(1913)	75, 81 6
University of Toronto	(1915)	91 5
McGill University	(1914)	87
FAILED		
College of Physicians and Surgeons, Chicago	(1905)	*
Northwestern University	(1898)	60 7
Rush Medical College	(1892)	49
Western Eclectic College of Medicine and Surgery	(1908)	55 7
St Louis College of Physicians and Surgeons	(1910)	70 5
University Medical College, Kansas City (1897) *,	(1903)	*
University of the City of New York	(1885)	61 8
University of Pennsylvania	(1910)	78†
Nagasaki Special Medical School	(1905)	71
Okayama Special Medical School	(1907)	69 6
Tokyo Charity Hospital Special Medical School	(1911)	52 4

* No grade given
† Fell below the required average in one or more subjects

The following questions were asked

TOXICOLOGY

1 In conducting postmortem examinations, outline your order of autopsy 2 How would you determine sex between two adult skeletons of equal height? 3 Differentiate between antemortem and postmortem ecchymoses 4 Differentiate postmortem appearance of death from heat stroke (insolation) and stroke by lightning 5 In criminal abortion how would you determine same by the examination of the woman (living)? 6 How would you in a railway injury differentiate between corporeal and psychic shock? 7 Differentiate acute arsenical poisoning from chronic phosphorus poisoning 8 Potassium chlorate lethel dose (approximately), symptoms of, eliminated how? Postmortem findings? 9 Mention five vegetable poisons 10 Differentiate opium from strychnin poisoning 11 What poisons are found in adulterated (commercialized) foods? 12 Give chemical test for arsenic

CHEMISTRY

1 What are alkaloids? What are the general properties of the natural alkaloids? 2 Describe subnitrate of bismuth and explain the dark color of the stools resulting from its administration 3 To what class of chemical substances does glycerin belong? 4 Define normal salt, acid salt, basic salt What is a decinormal solution? Give example 5 Carbon dioxid and carbon monoxid give formula and general properties of each 6 Give the chemical formula and general properties of plaster of Paris Explain the process of setting? 7 Give general properties and name antidote for phenol, construct its graphic formula and show its relation to benzene 8 Give in full one test for the presence of sugar in the urine 9 How is ferric hydrate prepared and for what is it principally used? 10 Name the chemical constituents of gallstones, and give in detail a reliable test for bile in the urine

11 Give two reliable tests for detecting albumin in urine, and one method for obtaining the quantitative estimation of the same 12 What are purin bodies where found and of what significance to the physician?

HYGIENE

1 What is the economic value of taxation for public health work? 2 Define endemic, epidemic and pandemic 3 Describe five methods of preserving meat 4 Outline an efficient rule for municipal milk supply 5 Discuss morbid conditions dependent upon diet 6 Arrange a sleeping apartment, outline care in detail 7 Outline a diet in cholera infantum marasmus and constipation 8 What physical conditions would retard advancement of schoolchildren? 9 What hygienic precautions would you give in pregnancy? 10 What would you do in case of outbreak of pertussis? 11 What precautions would you give in lobar pneumonia? 12 Differentiate between three contagious skin diseases, and give method of care to prevent their spreading

BACTERIOLOGY

1 Describe method of obtaining pure culture 2 What do you understand by mixed infection? Give example 3 Define spore, protoplasm nucleolus karyokinesis and immunity 4 Name and describe agents causing la grippe, bubonic plague glanders and tuberculosis 5 Give technic of a positive diagnosis in diphtheria. 6 What are ptomains and toxins? 7 Give characteristics of *Bacillus tetani* and its distribution in nature 8 How are bacteria divided with reference to need of oxygen in growth? Name and describe 9 What physical effects are produced by bacterial growth? 10 Discuss bacteriology of septic sore throat 11 Differentiate *B coli B enteritidis B typhosus* 12 Differentiate the different forms of malarial parasites

PATHOLOGY

1 Name five natural agencies by which the body protects itself from bacterial invasion 2 Give the physical changes due to senility Give the postmortem changes in the body tissues 3 Give Koch's laws for determining the causal organism in an infectious disease 4 What do you understand by following terms heart compensation heart block pulse pressure? 5 Explain how obstructive diseases of coronary arteries may cause myocardial degeneration 6 Discuss infarct formation Give difference between arterial and venous infarction Give five possible results of infarction 7 Give the pathology of pyonephrosis 8 What morbid results may occur from diseases of the pituitary gland? 9 Describe the process occurring in necrosis of bone. How does it differ from caries? 10 Give the characteristics of a growth that indicate malignancy Give a classification of malignant tumors Upon what principle is this classification based? 11 Give the pathology of the common lesion in typhoid fever in various stages. 12 Give short descriptions of the following conditions acute transverse myelitis acute bulbar paralysis pachymeningitis leptomeningitis

ANATOMY

1 Describe briefly the antrum of Highmore. 2 Give the surface workings of the following organs (*a*) spleen (*b*) pancreas (*c*) heart (*d*) right kidney (*e*) left kidney 3 Describe the lacrimal apparatus 4 Name the arteries and nerves which supply the duodenum What veins drain the region? 5 Describe the knee joint. Give blood nerve supply and action. 6 Give the characteristic points of cervical dorsal and lumbar vertebrae 7 Describe the prostate gland and give its anatomic relations 8 Give the boundaries of the fourth ventricle 9 Name the parts severed in amputation about the middle of the forearm 10 What is the fissure of Rolando and how may it be located on the cranium? 11 Describe the portal system of veins 12 Give number and name of the coats of the large intestine.

GYNECOLOGY

1 What constitutes the pelvic floor? 2 What are the indications for curettage? 3 What are the causes for sterility in the female? 4 Differentiate ovaritis right sided renal colic and appendicitis. 5 Define subinvolution of the uterus and give symptoms 6 Give symptoms of vesicovaginal fistula urethral caruncle endocervicitis and metritis 7 What is the differential diagnosis between acute pyosalpinx and pelvic cellulitis? 8 Name the varieties and causes of tubal gestation. 9 Classify tumors of the uterus 10 What are the most frequent causes of pelvic cellulitis? 11 Name the indications for abdominal hysterectomy 12 What is the etiology of metrorrhagia? 13 What is cystocele? What are its causes? What are its symptoms? Differentiate it from vaginal tumor What is its prognosis?

HISTOLOGY

1 Name four salivary glands. To what type do they belong? 2 Name and describe the coats of the gallbladder 3 What is the nature of the tissue forming Peyer's patches? (One word sufficient) 4 What cells do we find in the glands of the mucous coat of the cardiac end of the stomach that are not present in the pyloric end? 5 Name and describe two methods of cell division 6 Name the three blastodermic layers and tell what is derived from each 7 What white blood cells are most numerous? What is their percentage of the whole? How do you account for the shape of their nuclei? Explain the mechanism of their ameboid movement 8 Locate Gower's tract and the crossed pyramidal tract in the spinal cord Give cellular composition of neuroglia and tell where found 9 Describe cardiac muscle 10 Describe three types of cartilage and give one instance of where each is found 11 describe a cross section of the bladder wall 12 Describe the fallopian tube.

OBSTETRICS

1 Differentiate pregnancy uterine fibroid ovarian cyst. 2 What are the clinical phenomena of abortion? How would you proceed in a case of threatened abortion? 3 Define and diagnose extra uterine pregnancy 4 Outline your care of the mother during the puerperal state. 5 What are the causes of subinvolution? 6 Give the most common causes of puerperal hemorrhage. 7 Give symptoms of puerperal sepsis 8 What are indications for induction of premature labor? 9 When should version be resorted to? 10 Describe the pathology of phlegmasia alba dolens 11 Diagnose a breech presentation from a vertex 12 What is meant by inversion of the uterus?

PHYSIOLOGY

1 Describe a neuron, mention some of the large cells, some small cells. Where are they found? 2 What are the principal varieties of connective tissue in what parts of the body are they found, and what purpose do they serve 3 Describe the normal mechanism of the secretion of the gastric juice 4 What are the normal secretions of the liver? State the normal amount of urea excreted daily 5 Discuss the excretion of urine 6 Discuss the functions of the spinal cord 7 What is the function of the cerebrospinal liquid? State the amount normally present in an adult 8 Discuss coagulation of the blood and mention a method of hastening and a method of retarding coagulation 9 Name the forces concerned in the circulation of the blood 10 Discuss the process known as ovulation 11 Give origin and distribution of auditory nerve Discuss the function of tympanic membrane eustachian tube 12 Name the reflex centers in the medulla oblongata

GENERAL DIAGNOSIS

1 How would you differentiate between organic disease and functional disturbance of the heart? 2 (*a*) What is primary anemia? Name four diseases (*b*) What is secondary anemia? Name four conditions producing the same 3 How are acute miliary tuberculosis and typhoid fever to be distinguished from one another? 4 Give distinctive clinical symptoms between hypertrophy and dilatation of the heart 5 How are facial erysipelas and herpes zoster of forehead and face to be differentiated? 6 How is tubercular pharyngitis to be distinguished from syphilitic sore throat? 7 Differentiate intercostal neuralgia from acute pleurisy? 8 Differentiate between appendicitis in a woman and cystic tumor of the right ovary 9 Give differential diagnosis between labyrinthine vertigo and epilepsy 10 How are cerebrospinal fever and tetanus to be differentiated? 11 Give most probable causes of phlyctenular conjunctivitis, and differentiate it from other types 12 Name several causes for middle ear deafness and reasons for same

---

Massachusetts September Report

Dr Walter P Bowers secretary of the Massachusetts Board of Registration in Medicine, reports the oral, practical and written examination held at Boston, Sept 14-16, 1915 The total number of subjects examined in was 13, total number of questions asked 70, percentage required to pass, 75 The total number of candidates examined was 55, of whom 42 passed including 3 osteopaths, and 13 failed, including 2 osteopaths, one candidate's papers were not considered on account of fraud The following colleges were represented

College	Year Grad	Per Cent
PASSED		
Georgetown University	(1914)	79 2
Chicago College of Med and Surg	(1911)	77
Hahnemann Med Coll and Hosp Chicago	(1901)	75
Bowdoin Medical School	(1915)	76 7
College of Phys and Surgs Baltimore	(1903) 75 (1915)	76 9
Johns Hopkins University	(1909) 76 2 (1911) 81 2 (1913)	78.3, 80 5
University of Maryland	(1914)	77 5
Boston University	(1915)	75 79 5
College of Phys and Surgs. Boston	(1913)	75
Harvard University	(1909) 82 7 (1913) 79 2 82 4 (1915)	78 5 80, 80 2 81 3
Tufts College Medical School	(1913) 79 9 (1914) 77 5 (1915)	75 75 2 75 2 80
Columbia Univ Coll of Phys and Surgs	(1911)	81 65 1
Cleveland Pulte Medical College	(1914)	75 75
Jefferson Medical College	(1910)	79 8
Medico Chirurgical College of Philadelphia	(1915)	78 6
Temple University	(1914)	83 2
University of Pennsylvania	(1915)	77 3
Woman's College of Pennsylvania	(1914)	80 8
University of Vermont	(1915)	76 4
McGill University	(1914)	78 3
Laval University	(1915)	75
FAILED		
Georgetown University	(1913)	72
Maryland Coll of Eclectic Med and Surg *	(1914)	64
Maryland Medical College	(1913)	72 7
University of Maryland	(1915)	†
Woman's Medical College of Baltimore	(1909)	65 8
College of Phys and Surgs Boston	(1911) 71 2 (1914)	69 9
Tufts College Medical School	(1913) 72 2 (1915)	70
Montreal School of Med and Surg	(1915)	65 3

* This college was officially reported as not recognized by the Maryland State Board of Medical Examiners.

† Did not complete the examination

District of Columbia October Report

Dr Edgar P Copeland secretary of the Board of Medical Supervisors of the District of Columbia reports the oral practical and written examination held at Washington Oct 12-14 1915 The total number of subjects examined in was 16, total number of questions asked 80 percentage required to pass 75 The total number of candidates examined was 20 of whom 15 passed and 5 failed The following colleges were represented

College	Year Grad	Per Cent
PASSED		
Georgetown University	(1913) 76 5 (1915)	76 8 77 6 78 9
George Washington University	(1915)	76 9 80 8 81 1 84 6 87 6 90 6
Howard University	(1915)	80 5 86 8
Chicago College of Medicine and Surgery	(1914)	82 1
Johns Hopkins University	(1915)	80 4
University of Virginia	(1910)	78 7
FAILED		
Howard University	(1914)	71 8, 72 2
University of Michigan Medical School	(1894)	73 8
Fordham University	(1913)	72 7
New York Homeo Med Coll and Flower Hosp	(1912)	71 7

Book Notices

PHYSIOLOGICAL CHEMISTRY A Text Book and Manual for Students By Albert P Mathews, Ph D, Professor of Physiological Chemistry in the University of Chicago Cloth Price, $4 25 net Pp 1040 New York William Wood & Co, 1915

This book includes not only a discussion on physiologic chemistry, but also a section devoted to the methods of work of the biochemist The outstanding feature is the special treatment of the ultimate aspects of chemical interactions in living matter New matter and points of view are used which will prove instructive to those interested in biochemistry The intimateness of the exposition is fascinating, the explanation of the processes of past biologic thought are laid bare, and the questions which furnish the motives of present day investigations are clarified

The usual chapters on the detached chemistry of carbohydrates, lipins and proteins are relatively more expanded than usual This greater allotment is due in slight degree, if at all, to the inclusion of matter that can be said to be of only distant interest to biology On the contrary, it is necessitated by a more searching inquiry than usual into the biologic importance of a more detailed knowledge of the generation, ultimate structure and possible transformation of these classes of compounds For instance under carbohydrates there is the usual treatment, in appropriate measure, of these compounds, but there is also a consideration of their behavior, based on the ionic theory, which may furnish much to account for their fate in the animal organism It is suggested why and how it is possible for these compounds, apparently so stable in neutral form, to undergo fragmentation after they have come into relations with alkali and have entered into salt forms in protoplasm, how it is possible for the fragments to be oxidized, or, if oxygen fails to enter into condensation products, how they can probably serve as the agents of anaerobic respiration in the organism The biologic roles of the lipins and proteins are likewise discussed with reference to the finer details of their structures, and how profitable this is—especially with the proteins—is borne in on the reader with exceptional clearness The chapter on the physical chemistry of protoplasm should prove most gratifying to medical readers In it there has been unified a very lucid account of the most important physicochemical principles that so far have been turned to account in biology How many publications called "physical chemistry for physicians" have been offered in the last twelve or fifteen years which, consisting of random descriptions of physicochemical phenomena without any clear implication of their relations to biology, have only proved futile Here, however, with the author's intimate style of presentation, an understanding of the physicochemical phenomena he describes and an appreciation of their bearings on biology should readily be gained A reading of this chapter is sure to leave one with a wish that there had been more

In the parts of the work covering the special chemistry of the organs and tissues, the same features of treatment as those already pointed out are also usually to be found Any opportunity to apply knowledge of finer chemical structure to action is hardly ever missed In some regions of physiology, however, especially internal secretion and coagulation, the chemism has of course to be dealt with in empiric terms The author seems to hold the view that the danger in this condition of things, namely, that it can give rise to grossly mistaken conceptions, probably applies to theories of coagulation This is the only topic on which any marked deviation by the author from generally current opinion is noted Here he entertains heresies and asserts them The statement of his views and evaluation of past work on coagulation is most instructive, but it hardly furnishes justification for the little impugnment of some of the present principles of immunology that bobs up here Though there is a chapter entitled "Absorption," this function is treated quite summarily and not at all with the aid of physicochemical considerations, as might have been expected Nor are lymph formation and secretion so handled One can explain to himself why such treatment of these topics has not been included in this book, but not why the discussion of fat metabolism has been limited to that which it receives when the bare chemistry of the fats has been disposed of The metabolism of the inorganic salts has also received scant attention, about all there is of this being introduced incidentally On the whole, however, the treatment is so well conceived and so vivid, and the author has such a gift of being able to impart something to his readers, that with the excellent outlines of laboratory work appended to it, the book should meet a wide adoption as a working manual for young students, though, for the same reasons, all students of biochemistry of whatever standing should be attracted to it Besides that which has already been pointed out to older medical readers as of special worth to them in this book, the laboratory outlines will cover some methods that can be used for diagnostic purposes, but which have not yet found a place in manuals of diagnostic methods

AN INTRODUCTION TO NEUROLOGY By C Judson Herrick, Professor of Neurology in the University of Chicago Cloth Price, $1 75 net Pp 335, with 137 illustrations Philadelphia W B Saunders Company, 1915

This handy little volume, intended by the author to serve as an introductory treatise on neurology in a literal sense, has turned out to be nearly a textbook on the anatomy and physiology of the nervous system It is certainly remarkable what an amount of matter he has succeeded in placing into 335 pages Everything contained in this book is modern in every respect and represents the last word said in each field whereof it treats As the author is himself an indefatigable worker and original investigator in the domain of theoretical neurology, it was to be expected that the biologic portions would be excellent As he is not a clinician, much credit is due him also for the manner in which he makes his theorectical knowledge apply to the practical needs of the medical student The book is divided into twenty-one chapters, each of which can be studied separately Intended to serve as a guide to students in several different fields—medicine, psychology, sociology, education, general zoology, comparative anatomy and physiology—each class will be in a position to appropriate that which it needs In our opinion, nothing can be omitted without loss to the reader For conciseness of description this book has few equals Thoroughly abreast of the entire literature, the author appends only the most important sources at the end of each chapter—a great help to those wishing to pursue the subject farther Especially to be commended is the chapter on pain and pleasure We believe not only students of neurology, but also practitioners of medicine will derive much benefit from a careful study of the contents of this book

THE ROENTGEN DIAGNOSIS OF SURGICAL LESIONS OF THE GASTRO-INTESTINAL TRACT By Arial W George, M D, Assistant Professor of the Department of Roentgenology, Tufts Medical School, and Ralph D Leonard, A B, M D Assistant in the Roentgen Department of the Boston City Hospital Cloth Price, $10 Pp 280, with 357 illustrations Boston The Colonial Medical Press, 1915

Too much prominence is given to the serial plate method The fluoroscope can safely eliminate many unnecessary costly plates, and at times reveal facts that are not possible by the other method Besides the great value of palpation with the fluoroscopic screen, the visualization of moving organs is frequently of diagnostic importance The entire clinical story and laboratory findings are omitted from the text, and the diagnosis is based on the Roentgen findings alone This is undoubtedly possible in many cases, as the plates shown are definite and clear What, however, of the many cases which the authors have failed to recognize because of lack of Roentgen evidence? There are many diseases of the gastro-intestinal tract that cannot be discovered by the Roentgen ray alone The clinical and laboratory findings deserve, at least, equal prominence in the final diagnosis The text is clear and concise The illustrations are copies of the original plates, gathered from a rich clinical material Probably both the number of illustrations and the space allotted to them could, without loss, be reduced, making a smaller, compact volume

Medicolegal

Proof of Physician's Account in Action Against Executor

(Colburn vs Parrett (Cal), 150 Pac R 786)

The District Court of Appeal Second District of California reverses a judgment obtained for medical services rendered to the party of whose estate the defendant was sued as executor The court says that at the trial the plaintiff was sworn as a witness and identified an account book which he said was used by him "in the course of his business and profession" and all the items therein were in his own handwriting Against the objections of the defendant, the witness was permitted to testify that the items contained in this account book were entered at or about the time the transactions took place and that these items were true and correct Against like objections the entries referred to, covering a series of items of service to the patient, were admitted in evidence. Section 1880 of the Code of Civil Procedure of California provides that parties or assignors of parties to an action or proceeding or persons in whose behalf an action or proceeding is prosecuted against an executor or administrator on a claim or demand against the estate of a deceased person cannot be witnesses as to any matter or fac occurring before the death of such deceased person The court agrees that the plaintiff would have been entitled to testify that he kept such book of account at the time stated and that the book was the one kept by him, and, if this had been supplemented by evidence other than the testimony of the plaintiff establishing the trustworthiness of the account book, it then would have been receivable in evidence But on the record as it appeared the objection to the introduction in evidence of the account book should have been sustained It is established by abundant authority that, when books of account are offered in evidence to establish items of account it is necessary to show by other evidence the correctness of the books This may be done by testimony of those who have dealt and settled with the party from his books of account that he keeps fair and honest books of account or according to the later decisions, the correctness of the entries may be shown by the testimony of any one who is able of his own knowledge to testify to their correctness

Construction of Statute with Reference to Diagnosing of Diseases

(Martin et al vs Baldy et al (Pa) 94 Atl R 1091)

The Supreme Court of Pennsylvania says that a majority of the court are of the opinion that the decree of the court below should be affirmed on the opinion of the presiding judge of said court, and it is so ordered. The opinion referred to states that the court entered a decree enjoining the defendants as members of and constituting the bureau of medical education and licensure of the department of public instruction of the commonwealth of Pennsylvania from enforcing the regulations affecting the practice of optometry adopted at their meeting held July 24, 1914 and from adopting or enforcing any other regulations or plans under the authority of the act of June 3 1911 as amended by the act of July 25 1913, affecting the practice of optometry within the commonwealth This was based on the conclusion that the plaintiffs and those engaged in the same occupation as themselves are not covered by the provisions of the statutes and that even if they were the acts of assembly as far as they apply to the plaintiffs are unconstitutional because of an inadequate title The court cannot regard the fact that the work done by the eye specialist physician and that done by the optometrist to a certain limited extent, lap over each other, constitutes the optometrist a practitioner in medicine. A good deal was made in the case of the prohibition in the first section of the act of 1911 applicable to persons who 'diagnose diseases" The word etymologically and in its general interpretation signifies a discrimination, a passing of judgment, as to physical conditions In a sense it may be said that a mother having a child giving signs of whooping cough or some febrile condition passes judgment on the case Is that diagnosis within the meaning of the statute? If a barber finds that the man in his chair shows signs of a diseased scalp or skin, does he diagnose the disease in reaching such a judgment? The court thinks not. It thinks that a fair and usual construction and interpretation of the words "diagnose diseases" such as it ought to give to them in determining the meaning of the acts of assembly in question, is that the mental act involved in the matter of diagnosis should be something more than the mere determination that there are indications of disease The proofs in the case were to the effect that optometrists, examining the eye of a patient, either with or without the aid of artificial means, in case they find that the interior of the eye is clouded and gives ground for suspicion that there is some disease of the eye, inform the patient that, for his own protection and safety, he should consult a physician It seems to the court that it would be applying a severe rule and stretching language beyond its natural force to say that such action on the part of an optometrist is "diagnosing diseases" The use of the plural noun seems to indicate what otherwise would appear to be a proper construction that to "diagnose diseases" means to distinguish discriminate between two or more diseases If, however, that is too narrow a view to take of the case, the quoted phrase must involve the act of determining what disease exists

Death From Typhoid Fever After Injury

(St Louis I M & S R Co vs Steel (Ark) 178 S W R 320)

The Supreme Court of Arkansas reverses a judgment obtained by plaintiff Steel, as administrator, for the death of a car repairer from typhoid fever, in August, after he had been injured in the railroad company's service the preceding October The court says that all human bodies are subject to weakness, disease and death, and, although it was doubtless true, as one of the physicians testified, that the vitality of the injured man was so lowered and his system so weakened by the suffering from the injury caused him by the negligence of the railroad company that he was more susceptible to disease and less able to resist it than he otherwise might have been, still the verdict could not be sustained unless there was some testimony from which it could be reasonably inferred that his death was occasioned by germs or disease caused by the injury or resulting from it as the natural and probable consequence thereof But all the physicians stated that typhoid fever could not have been produced by the injury, or as an effect arising from it, that it is never of traumatic origin So far as the law and the facts are concerned, the railroad company was no more responsible for the man's death from typhoid fever, and it was no more the natural and probable consequence of the injury than if he had died from having been shot with a gun while in the weakened condition caused by the injury The possibility that he succumbed more readily to the disease causing death than he otherwise would but for the injury was insufficient to support the verdict and the jury should not have been told that, if death resulted from typhoid fever contracted because of impaired health occasioned by the injury, rendering his system more liable to the disease and less able to resist it it was legally attributable to the injury The typhoid fever was an intermediate cause disconnected from the primary or original injury and self-operating which produced the death and the negligence of the railroad company causing the injury was not the proximate cause of the death, so that the jury should have been given the company s requested instruction that it was not liable for the death

"Personal" Letters to Physicians

(Kilmer vs Dr Kilmer & Co (N Y) 154 N Y Supp 977)

The Supreme Court of New York, Special Term Broome County holds that it ought to be known that a letter marked Personal is intended for the physician whose name appears on the letter no matter what prefix or affix appears with the

Book Notices

Physiological Chemistry A Text Book and Manual for Students By Albert P Mathews, Ph D, Professor of Physiological Chemistry in the University of Chicago Cloth Price, $4 25 net Pp 1040 New York William Wood & Co, 1915

This book includes not only a discussion on physiologic chemistry, but also a section devoted to the methods of work of the biochemist The outstanding feature is the special treatment of the ultimate aspects of chemical interactions in living matter New matter and points of view are used which will prove instructive to those interested in biochemistry The intimateness of the exposition is fascinating, the explanation of the processes of past biologic thought are laid bare, and the questions which furnish the motives of present day investigations are clarified

The usual chapters on the detached chemistry of carbohydrates, lipins and proteins are relatively more expanded than usual This greater allotment is due in slight degree, if at all, to the inclusion of matter that can be said to be of only distant interest to biology On the contrary, it is necessitated by a more searching inquiry than usual into the biologic importance of a more detailed knowledge of the generation ultimate structure and possible transformation of these classes of compounds For instance under carbohydrates there is the usual treatment, in appropriate measure, of these compounds, but there is also a consideration of their behavior, based on the ionic theory, which may furnish much to account for their fate in the animal organism It is suggested why and how it is possible for these compounds, apparently so stable in neutral form, to undergo fragmentation after they have come into relations with alkali and have entered into salt forms in protoplasm, how it is possible for the fragments to be oxidized, or, if oxygen fails to enter into condensation products how they can probably serve as the agents of anaerobic respiration in the organism The biologic roles of the lipins and proteins are likewise discussed with reference to the finer details of their structures, and how profitable this is—especially with the proteins—is borne in on the reader with exceptional clearness The chapter on the physical chemistry of protoplasm should prove most gratifying to medical readers In it there has been unified a very lucid account of the most important physicochemical principles that so far have been turned to account in biology How many publications called "physical chemistry for physicians" have been offered in the last twelve or fifteen years which, consisting of random descriptions of physicochemical phenomena without any clear implication of their relations to biology, have only proved futile Here, however, with the author's intimate style of presentation, an understanding of the physicochemical phenomena he describes and an appreciation of their bearings on biology should readily be gained A reading of this chapter is sure to leave one with a wish that there had been more

In the parts of the work covering the special chemistry of the organs and tissues, the same features of treatment as those already pointed out are also usually to be found Any opportunity to apply knowledge of finer chemical structure to action is hardly ever missed In some regions of physiology, however, especially internal secretion and coagulation, the chemism has of course to be dealt with in empiric terms The author seems to hold the view that the danger in this condition of things, namely, that it can give rise to grossly mistaken conceptions, probably applies to theories of coagulation This is the only topic on which any marked deviation by the author from generally current opinion is noted Here he entertains heresies and asserts them The statement of his views and evaluation of past work on coagulation is most instructive, but it hardly furnishes justification for the little impugnment of some of the present principles of immunology that bobs up here Though there is a chapter entitled "Absorption," this function is treated quite summarily and not at all with the aid of physicochemical considerations, as might have been expected Nor are lymph formation and secretion so handled One can explain to himself why such treatment of these topics has not been included in this book, but not why the discussion of fat metabolism has been limited to that which it receives when the bare chemistry of the fats has been disposed of The metabolism of the inorganic salts has also received scant attention, about all there is of this being introduced incidentally On the whole, however, the treatment is so well conceived and so vivid, and the author has such a gift of being able to impart something to his readers, that with the excellent outlines of laboratory work appended to it, the book should meet a wide adoption as a working manual for young students, though, for the same reasons, all students of biochemistry of whatever standing should be attracted to it Besides that which has already been pointed out to older medical readers as of special worth to them in this book, the laboratory outlines will cover some methods that can be used for diagnostic purposes, but which have not yet found a place in manuals of diagnostic methods

An Introduction to Neurology By C Judson Herrick, Professor of Neurology in the University of Chicago Cloth Price, $1 75 net Pp 335, with 137 illustrations Philadelphia W B Saunders Company, 1915

This handy little volume, intended by the author to serve as an introductory treatise on neurology in a literal sense, has turned out to be nearly a textbook on the anatomy and physiology of the nervous system It is certainly remarkable what an amount of matter he has succeeded in placing into 335 pages Everything contained in this book is modern in every respect and represents the last word said in each field whereof it treats As the author is himself an indefatigable worker and original investigator in the domain of theoretical neurology, it was to be expected that the biologic portions would be excellent As he is not a clinician, much credit is due him also for the manner in which he makes his theoretical knowledge apply to the practical needs of the medical student The book is divided into twenty-one chapters, each of which can be studied separately Intended to serve as a guide to students in several different fields—medicine, psychology, sociology, education, general zoology, comparative anatomy and physiology—each class will be in a position to appropriate that which it needs In our opinion, nothing can be omitted without loss to the reader For conciseness of description this book has few equals Thoroughly abreast of the entire literature the author appends only the most important sources at the end of each chapter—a great help to those wishing to pursue the subject farther Especially to be commended is the chapter on pain and pleasure We believe not only students of neurology, but also practitioners of medicine will derive much benefit from a careful study of the contents of this book

The Roentgen Diagnosis of Surgical Lesions of the Gastro-Intestinal Tract By Arial W George, M D, Assistant Professor of the Department of Roentgenology, Tufts Medical School, and Ralph D Leonard, A B, M D, Assistant in the Roentgen Department of the Boston City Hospital Cloth Price, $10 Pp 260, with 357 illustrations Boston The Colonial Medical Press, 1915

Too much prominence is given to the serial plate method The fluoroscope can safely eliminate many unnecessary costly plates, and at times reveal facts that are not possible by the other method Besides the great value of palpation with the fluoroscopic screen, the visualization of moving organs is frequently of diagnostic importance The entire clinical story and laboratory findings are omitted from the text, and the diagnosis is based on the Roentgen findings alone This is undoubtedly possible in many cases, as the plates shown are definite and clear What, however, of the many cases which the authors have failed to recognize because of lack of Roentgen evidence? There are many diseases of the gastro-intestinal tract that cannot be discovered by the Roentgen ray alone The clinical and laboratory findings deserve, at least, equal prominence in the final diagnosis The text is clear and concise The illustrations are copies of the original plates, gathered from a rich clinical material Probably both the number of illustrations and the space allotted to them could, without loss, be reduced, making a smaller, compact volume only 2 weeks old, and the board cites this as an instance of unlawful and inhumane practice and says that in many such instances, even in the case of illegitimate children, these infants could be nursed and cared for by their mothers

In an effort to interest communities in their proper responsibility in the care of dependent, delinquent and neglected children, the board has been instrumental in having mass meetings held in a number of counties in the state, and many public addresses have been given by members to religious and civic organizations Much literature has also been distributed

The great number of requests from various parts of the state for assistance in meeting the varied problems connected with dependent and neglected children indicate that the situation is unsatisfactory in Ohio, and conditions are doubtless no better in many other states Failure properly to care for these wards of the state not only entails an economic loss, but also constitutes a grievous neglect of humanitarian duty

Report of the Children's Bureau

The third annual report of the federal Children's Bureau, just issued, emphasizes the need for developing standards for rural child welfare work, physical standards for children in industry and standards of laws for the protection of children Three fifths of the 30,000,000 children in the United States we are told, live outside of the cities But we are also told that the percentage of illiteracy in rural communities according to the 1910 census is double that in the cities, and where rural child labor is extensively employed, the percentage of child illiteracy is increased Juvenile delinquency laws in most states are ineffective because rural probation officers are lacking With reference to infant mortality, the report says that two items of inquiry completed during the past year reveal an average infant death rate of 134 out of 1,000 infants in a steel-making and a coal-mining town, as against a rate of 84 out of every thousand in a residential suburb It is said that even a greater contrast is found between the most congested section and the choicest residential section in each of these communities The report comments that "the more favorable the civic and family surroundings and the better general conditions of life, the more clearly are they reflected in a lessened infant mortality" The bureau is pursuing its inquiry into the relations of babies' deaths to wages and social conditions As a constructive measure in the effort to improve infant mortality conditions, the bureau has prepared for distribution pamphlets on prenatal care and infant care which are sent on request to inquirers The bureau's work during the year comprises eight different phases of child welfare causes of infant mortality, child hygiene, cooperation in a general test of birth registration social care of mental defectives and of illegitimate children, principles of community provision for recreation, compilation of laws relating to children, analysis of the administration of child labor laws and detailed studies of rural child welfare and the physical effects of child labor

Studies in Blood Pressure in Physically Trained Persons

Dr G V Dearborn has recently announced the results of some studies of blood pressure among gymnasium athletes in Hemenway Gymnasium of Harvard University *(Am Phys Educ Rev*, June, October, 1915) The subjects were thirty-nine in number, twenty-eight of whom were females ranging in age from 11 to 32 years, and eleven males, the youngest 21 and the oldest 60 The latter were well-trained athletes, all being students or instructors in the physical education department of the summer school of Harvard University The experiments were conducted during the warm weather of July, the majority of the measurements being made in the afternoon after a moderately strenuous day of mental and physical work. The experiments, it is believed, represent normal conditions in healthy, active men and women between the ages named Blood pressures were taken with the Stanton wide-cuff instrument, under the usual conditions of blood pressure taking Dearborn sets forth a thorough analysis of the findings in these experiments in both tabular and textual form He summarizes his findings as follows The posterior tibial blood pressure when the leg is horizontal is about 118 per cent. of the "sitting" brachial pressure, when the leg is in the usual standing position, about 133 per cent, and when the leg is held vertically upward, about 70 per cent, or frequently much less These numbers seem to corroborate the supposition of a pumping mechanism in the muscle masses of the thigh Strenuous gymnastic feats are most often followed by raised brachial blood pressure, in 58 per cent of the cases here reviewed, less often by lowered pressure, 39 per cent, while seldom is there no change or slight change The reactions are so various and uncertain as to imply (especially as the results of overturning exercises) vasomotor reactions far too complex to be as yet explained Forty-four trained males, with an average age of 32.7 years, had an average brachial pressure of 120.3 mm, while sixty-eight trained females, with an average age of 25.2, had 114.1 mm One hundred forty-seven untrained young women, with an average age of 19.8 years, had an average pressure of 107.9 mm In these two sets of numbers there is evidence that adequate physical training raises the blood pressure to a definite maximum of efficiency, which, however, is not high It is possible, however, that age has a part in this difference As a very rough rule (with almost as many exceptions as corroborations, perhaps) from the age of 10, each of the following twenty years is represented by 1 mm rise of brachial pressure above 100

Society Proceedings

WESTERN SURGICAL ASSOCIATION

Twenty Fifth Annual Meeting held at Des Moines Iowa,
Dec 17 18, 1915

(Concluded from page 219)

Bleeding Nipples

Dr. Dean Lewis, Chicago Seven bleeding nipples have been studied Five of these have been operated on The youngest patient was 35 years of age, the oldest 51 In two instances a cyst the size of a hazelnut was situated superficially about three-fourths inch from the nipple When pressure was made on the cyst, drops or a stream of blood or serum could be expressed A radical operation was performed in both instances In one, beginning malignant degeneration of an intracanalicular papilloma was found In the other instance a benign papilloma was found In two cases no definite tumor could be found, but when a plastic resection of the breast was performed an intracanalicular papilloma, not much larger than a barley seed, was found deep in the duct In two instances the bleeding was associated with a chronic interstitial mastitis In one of these cases a plastic resection of both breasts was performed In the other case cysts had been removed from both breasts five years before the discharge was noticed This patient had nothing done, and the discharge has practically ceased for some weeks In the seventh case the patient noticed some bleeding from the breast. The bleeding soon stopped, being replaced by an occasional watery discharge No tumor could be palpated We are apparently dealing in this case with a small intracanalicular papilloma situated deep in the breast Bleeding from the nipple occurs most frequently with intracanalicular papillomas It also occurs with the adenocystic type of abnormal involution, with papillary growths in the acini Both conditions may be grouped together, as they are apparently different manifestations of the same process Conservative plastic operations can be performed in these cases when seen early

Etiology and Prophylaxis of Carcinoma

Dr. Henry T Byford Chicago I have clinical and statistical facts to show that carcinoma is an infection The germ is found in the surface soil and dirt of populous districts and enters the system in the majority of cases with the food

Recommendations by way of prophylaxis 1 Carcinoma should be considered an infectious disease 2 Precautions against the spread of the infection should be taken by the community as well as by the individuals affected 3 Foods, particularly fruit and vegetables, should be protected from contamination after their source and in transit All fruits and vegetables from general sources should be sterilized before being eaten, except such as have a complete covering or hard external surface that can, after a thorough cleansing, be removed The use of human excrement as a fertilizer should be prohibited by law 4 The disposal of human excrement in suburban and populous rural and manufacturing districts should be such as to avoid possible contamination of the surface soil The feces of patients with carcinoma of the alimentary canal and pelvic organs should receive the same attention as those of patients from typhoid or cholera Women should be taught the infectious nature of normal stools, with particular reference to keeping the perineum free from contamination They should also be taught to spend a considerable portion of their time washing their hands 5 The number of cats and dogs in populous districts should be restricted, and they should not be allowed to roam about the streets by day and night The excess should be killed Means should be taken for the extermination of rats, mice, cockroaches and other vermin 6 Individuals whose occupations are known to expose them to great risk of infection from carcinoma should be taught that it may get into their systems either through the irritated skin or by way of the alimentary canal They should be taught to keep the skin free from chronic lesions, should wash their hands very thoroughly before eating, and should wash and disinfect their hands very thoroughly and change their working garments when they leave their work for the day All workers in dirt should observe these rules 7 All epithelial areas affected with chronic irritation and erosion should be attended to An attempt might also be made to prevent infection of ulcerated and eroded surfaces in the alimentary canal Patients with such lesions should avoid all unsterilized food that might be contaminated Whether or not it would be useful to give a large dose of trypsin or something with a similar catabolic or germicidal action once or twice daily in cases of ulcer of the stomach, or some nonpoisonous substance that might be found to have a destructive action on carcinomatous cells and parasites, is a question that deserves consideration 8 Municipal authorities should put carcinoma on the list of diseases to be reported in order that the patients may be traced and taught how to take care of themselves and their infected discharges, and that none of those living with them may be allowed to handle foodstuffs for the market 9 The blood of patients with carcinoma should be exhaustively studied with reference to the discovery of something that will increase immunity, for until we learn more about the germ, the establishment of immunity would seem to afford the best hope of preventing infections and recurrences 10 The time would seem to be ripe for teaching the public something concerning the erroneous notions about diet that are prevalent among the idle rich and prosperous poor in order that they may stop manufacturing the serious forms of gastro-intestinal disease that have of late years shown such an alarming increase in frequency, the seeds of which are sown in adolescence and the fruits of which are harvested at maturity and in senescence In this way the danger of infection by contamination might be greatly diminished 11 Women who have not borne children for several years should be warned of the danger of developing carcinoma, and should not only be on the lookout for symptoms but should also submit to a pelvic examination at least twice a year until it is evident that their mucous membranes are healthy and are remaining so

The Relation of Skin Transplant to Carcinoma, Especially to Its Recurrence

Dr A C Stokes, Omaha Skin grafts on the surface of wounds from which carcinoma has been detected should be thin grafts, because they carry no blood vessels or lymphatics with them, and for the further reason that they do not completely cover the surface of the wounds The Thiersch graft should be used on fresh surfaces, and the Reverdin graft on granulated surfaces The recurrence of carcinoma in skin grafts is comparatively rare, and these grafts seem to exert a special influence against the return of carcinoma

Excision Versus Gastro-Enterostomy in the Treatment of Gastric Ulcer

Dr Van Bupen Knott, Sioux City, Iowa As the tissue changes attending most chronic gastric ulcers are permanent, and the larger proportion of ulcers of the stomach are planted on an ulcer base, in every case of ulcer treated surgically, the ulcer should be excised when possible An additional reason for the radical treatment of gastric ulcer is the fact that about one third of the cases treated by gastro enterostomy without excision or pylorectomy require a second operation at which one of these procedures should be applied Ulcers situated near the pylorus, on the anterior wall of the stomach, along the lesser curvature involving both anterior and posterior walls, and on the posterior wall, even though at times adherent, may in many, but not in all instances, be excised Gastro-enterostomy must frequently accompany excision of an ulcer or ulcers, but whenever excision is possible within safe limits, it should be made and the fate of the patient not left to gastro-enterostomy alone

Early Diagnosis of Intussusception in Children Under Three Years of Age

Dr A W Abbott, Minneapolis Twelve children, 3 years of age or under, were observed A sudden violent abdominal pain, accompanied by a regurgitation of its stomach contents, in a child otherwise well, initiated the attack in 100 per cent of the cases Recurring pains, varying in intensity, but regular in periodicity, accompanied by the assumption of peculiar positions, generally the prone, in those strong enough to move about, occurred in 100 per cent of those noted In those cases beginning in collapse, 25 per cent, these periodic pains were often indicated only by regularly repeated moans and drawing up of the limbs An abdominal tumor could be made out somewhere in the course of the colon in 92 per cent The stools did not contain feces in 91 per cent Mucus stools are recorded in 83 per cent These indications should strongly suggest intussusception within forty-eight hours after the attack Blood in the stools adds to this certainty of diagnosis, but it may be absent in 77 per cent until after the second day Instead of distention, we may expect a flaccid, scaphoid abdomen Recurring vomiting is not usually one of the earliest symptoms, being absent in 81 per cent until the second day, or later in our cases, and in exceptional cases there is no vomiting The positive identification of the intussusceptum by the finger in the rectum is absolutely pathognomonic, but may be demonstrable in only 55 per cent The virulence of the disease and its mortality depend not so much on the time elapsed before operation as on the intensity of the strangulation of the mesenteric circulation Of the 12 patients, 8 recovered, 4 died Of the noncollapsing cases, 8 patients recovered, and 1 died Of those beginning in collapse, none recovered, 3 died

Use of Suprarenalin and Transfusion in Treatment of Shock

Dr J F Corbett, Minneapolis I limit the use of suprarenalin and transfusion to those cases of postoperative and traumatic shock in which there are present pallid mucous membranes, low blood pressure, unconsciousness when anesthetic is discontinued, and threatened failure of respiration The use of the suprarenalin should be so guarded as never to raise the blood pressure to over 90 or 100 mm of mercury It is advised that this treatment should be used only in cases in which there has been loss of blood volume either as a result of shock and hemorrhage or in pure shock resulting from transudation into the tissues without hemorrhage After the vessel tone has been established, transfusion should be done

This recommendation is based on a long series of animal experiments and on the results of three clinical cases

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below

American Journal of Medical Sciences, Philadelphia

January CLI No 1 pp 1 156

1 *Open Air Treatment of Pneumonia and Anemia in Children R G Freeman, New York.
2 *Pneumonia in Children Its Epidemiology G R Pisek and M C Pease, New York
3 *Case of Acute Cerebellar Ataxia in Children J P C Griffith, Philadelphia
4 *Pneumotyphoid Report of Case F Billings Chicago
5 *Mild Diabetes in Children D Riesman Philadelphia
6 Functional Renal Tests in Orthostatic Albuminuria L F Barker and F J Smith Baltimore.
7 *Effect of Water Intake on Nitrogen Retention in Nephritis N B Foster and H B Davis New York
8 *Differentiation of Nephropathies Cardiopathies and Allied Conditions E. E. Butterfield, F Erdwurm and W H Braddock, New York.
9 Relation Between Functional Tests and Pathologic Anatomy of Kidney in Chronic Nephritis C Frothingham Jr, Boston
10 *Relationship of Pathologic Histology and Iodin Compounds of Human Thyroid L. B Wilson and E C Kendall, Rochester, Minn
11 *The Uric Acid in Blood in Gout J H Pratt Boston
12 *Four Cases of Hematomyelia H Brooks New York
13 Use of Duodenal Catheter in Diagnosis. H L McNeil, Galveston, Tex
14 Syncope L Langstroth San Francisco

1 Abstracted in The Journal, July 3, 1915, p 133

2 Abstracted in The Journal, June 26, 1915, p 2167

3 **Acute Cerebellar Ataxia in Children**—The noteworthy features in Griffith s case are The rapid development of symptoms without discoverable cause, unless possibly the child had suffered from influenza, the uncommon degree of nystagmus, the ataxia of the extremities, disturbance of sensorium, affection of speech, slight increase of reflexes, and the rapid recovery complete in one month from the onset Such systemic disorders as Friedreich s ataxia and the cerebellar ataxia of Marie were out of the question Tumor and abscess of the cerebellum, at first thought to be possibilities, were excluded by the course of the disease and by the examination of the eyegrounds, and that the nystagmus was not otitic in origin was shown by the application of Barany's tests Treatment consisted on admission in the administration of a purgative and of sodium bromid After this, on the ground that the condition might be toxic, bicarbonate of soda was given every four hours and enteroclysis every six hours This treatment was continued until recovery was well advanced

4 **Pneumotyphoid**—The notable events of the history of Billings case are as follows The patient was seized suddenly with chill and fever and presented all of the physical phenomena one week later of a frank right lower-lobe pneumonia A palpable enlarged spleen was found The leukocytosis on admission became less, with an increase of the consolidated area of the lung On the seventeenth day in the hospital there was a positive typhoid blood culture, and on th [illegible] a pure typhoid growth was found in the [illegible] d bacteremia and typhoid bacilli in the sputum persisted for more than three months and were probably present at the time of death The typhoid bacillus was not found at any time in the stools or in the urine Therefore Billings concluded, that this patient presented an example of typhoid presenting its primary manifestations in the lung in the form of a frank, outspoken croupous pneumonia

5 **Mild Diabetes in Children**—Riesman is convinced that there exists a mild type of diabetes in childhood and adolescence The disease is peculiar in its tendency to occur in several members of the same family The glucosuria is usually moderate, although nervous excitement and other disturbing factors may augment it Other diabetic symptoms are often slight and may be wanting The disease is not progressive and may remain stationary or end in apparent recovery In its general features it corresponds to the so called renal diabetes

7 **Effect of Water Intake in Nephritis**—The retention of nitrogen is one of the common phenomena associated with a large percentage of the cases of nephritis observed in hospitals Whether this retention characterizes also, in lesser degree and periodically, earlier stages of the disease is not at present clear, but this is generally assumed to be true and is held accountable for some symptoms, whether correctly one may not assert At those periods of nephritis when patients are forced to seek hospital aid the retention of nitrogen outside of convalescence appears to precede and lead up to either frank uremic manifestations or to the graver complications of renal disease Furthermore, a careful study of a large number of cases by Foster and Davis disclosed many in which the metabolic disturbances seem confined to the protein economy, that is to say, the notable failure in elimination is in respect to nitrogen, and this retained nitrogen is found not only in the blood but also in the tissues With some of these cases water metabolism is either normal or approximately normal and the total nitrogen elimination then appears to depend directly on the volume of water that passes through the kidneys This is simply another way of stating an accepted fact, that the diseased kidney can not excrete a concentrated urine, namely, the power of concentration is impaired If under these conditions the nitrogen of the diet be reduced to about half the normal and the fluid ingested be increased there results first a sweeping out of retained nitrogen and later normal approximations toward equilibrium Reduction of nitrogen intake alone does not suffice, nor does the ingestion of large amounts of water if the diet nitrogen be not curtailed

8 **Differentiation of Nephropathies, Cardiopathies and Allied Conditions**—In this study the determination of the freezing point, refractive index, and specific gravity have been supplemented by the authors by determination of the protein content and dry residue of the serum While these supplementary determinations do not add materially to the results, they furnish a striking demonstration of the relatively large variations which are possible in the solid constituents of the blood serum in different diseases

10 **Iodin Compounds of Human Thyroid**—Wilson and Kendall present some new evidence in the solution of the problems of the relationships between the clinical, pathologic and chemical findings in cases of human goiter The scope of their study is limited to 566 cases from which specimens have been analyzed chemically in the course of a general investigation of the iodin compounds of the thyroid The cases were not selected, but were taken at random in the order as operated on from the patients under treatment in the Mayo Clinic during 1914 In addition to the determination of the total iodin, the dried thyroid substance of fifty-eight thyroids was hydrolized by a method already published This hydrolysis splits the proteins into simpler products and divides the total iodin into two chemically different groups The a-iodin compound is insoluble in acids The b-iodin compound is soluble Both a-iodin and b-iodin are in organic combinations and there is evidence that b-iodin is not a decomposition product of the a-iodin compound, but that the two forms exist independently in the gland Physiologic tests have shown that the a-iodin compound produces the typical effects of desiccated thyroid, but that the b iodin compound has no toxic action

The data obtained furnish additional proof of the statements previously made, that the symptom complex, which is generally recognized as "typical Graves' disease," "exophthalmic goiter,' etc, and sharply denoted by Plummer as hyperplastic toxic goiter is constantly parallel in all its stages of development and regression with similar stages of development and regression in the parenchyma of the thyroid This parallelism is shown in the average duration of goiter, the average duration of toxic symptoms, and in the progressive and regressive histologic changes From previous investigations there seemed to be little doubt that the clinical picture of exophthalmic goiter is produced, either directly or indirectly by hyperactivity of the thyroid, but until some definite substance had been isolated from the normal thyroid and from the pathologic glands and shown to be toxic in its nature no final conclusion could be arrived at The isolation in pu form of a compound containing 60 per cent of iodin and the proof that this substance is highly toxic in nature, emphasized the importance of an investigation concerning the amount and nature of the iodin containing compounds of the thyroid It has been shown that the iodin in the glands exists in two independent forms of combination, only one of which, the a form, is toxic Our conception of the physiologic action of the iodin compounds must therefore be enlarged to include the action of this one the toxicity of which is vastly greater than that of any other hitherto described

It is significant to find that this a-iodin *compound is* present in the actively hyperplastic glands of advanced hyperplastic toxic goiters in only one twentieth to one fifteenth the amount in which it is present *in normal thyroids* This must be interpreted not as a reduced production of the toxic substance but as the result of its greatly increased diffusion from the gland into the blood stream In actively hyperplastic glands the amounts of iodin and a-iodin are low, but in cases in which regression has occurred the amounts of iodin are high In contrast to this it was found that the amount of iodin in the nonhyperplastic toxic glands is higher than in the nonhyperplastic atoxic glands The clinical picture, in its most severe type, of patients with nonhyperplastic toxic goiter approaches in many respects the picture of patients with hyperplastic toxic goiter Assuming the same toxic substance to be the cause for all thyroid intoxication, the factors involved to produce varying clinical pictures, are the daily amount of absorption of the toxic substance, the length of time during which this intoxication occurs, and the personal resistance of the patient

11 **Uric Acid in Blood in Gout**—In the sixteen cases of gout studied by Pratt no relation could be traced between the amount of uric acid in the blood and the severity or character of the disease Two of the patients had many large deposits of sodium urate beneath the skin in different parts of the body The blood of both contained less than the average amount of uric acid found in gout, one had 2 4 mg on a purin-free diet, the other 2.2 mg These findings show that the presence of many tophi is *no indication that* hyperuricemia exists In typical gout the uric acid may be low at times, even when atophan has not been taken In one of Pratt's patients the first analysis showed only 1 7 mg of uric acid (purin-free diet), and in the blood of another patient on a mixed diet there was 1 9 mg In four cases of gout in which the uric acid concentration at the first examination was below the upper limit of normal, 2 5 mg, the blood after this test meal contained a large amount of uric acid Exogenous purins in five gouty patients produced a marked hyperuricemia twenty-four hours to three days after they were fed while in individuals who did not have gout the uric acid concentration was practically unchanged twenty-four to forty-eight hours after the purin meal The increase in the uric acid content of the blood in gout after feeding a purin meal may not appear for twenty-four hours or more, and an initial fall has been observed in two cases of gout in which the blood was examined four to eleven hours after a sweet bread meal In two nongout cases in which Pratt examined the blood four to five hours after the sweet bread meal, not only did this drop in the uric acid not occur, but there was a distinct increase in the amount of uric acid The blood of a healthy man three hours after taking an ordinary portion of chicken contained 3 9 mg of uric acid Ten days later only 1 3 mg was present

12 **Hematomyelia.**—Brooks claims that the dominant agent in the immediate determination of the hemorrhage is that of strain, involving spinal activity or tension

American Journal of Public Health, Boston

December 1915 V, No 12, pp 1195 1284

15 Social Aspects of School Hygiene D B Armstrong, New York
16 Principles of Administrative Control of Communicable Diseases in Large Cities J S Billings New York
17 Use of Unemployed in Field of Sanitation J F McCrudden, Philadelphia
18 Prevention and Arrest of Diseases of Cardiorenal Vascular System E L Fisk, New York
19 Cooperation in Public Health Administration at LaSalle, Peru and Oglesby, Illinois G F Ruediger, LaSalle, Ill
20 Registration of Communicable Diseases F M Meader, New York
21 Investigation of Methods of Storing and Dispensing Milk O W H Mitchell and G E Hannett, Syracuse, N Y
22 Report of Committee on Standard Methods of Testing Disinfectants E B Phelps, Rochester, N Y
23 Milk Situation in South B L Arms, Galveston, Tex.
24 Mortality Statistics and Physician G H Van Buren, Washington, D C
25 Report of Committee on Organization and Functions of Municipal Health Departments J A Vogleson
26 Report of Committee on Standard Methods for Bacterial Examination of Milk M P Ravenel, H W Conn, W H Park J F Anderson and R S Breed

Arizona Medical Journal, Phoenix

December, 1915, III No 12 pp 1 14

27 Medical Citizen J E Bacon, Miami
28 Trifacial Neuralgia, Its Successful Treatment without Major Operation R Moore San Francisco
29 Treatment of Tuberculosis R. B Homan, El Paso, Tex

Arkansas Medical Society Journal, Little Rock

December 1915, XII, No 7 pp 163 188

30 Care of Patient Before and After Surgical Operation R L. Saxon, Little Rock
31 Carbon Dioxid Snow in Dermatology D W Goldstein, Fort Smith
32 Papilloma of Bladder and Its Management A E Cox, Helena
33 Pellagra J T Perry, Greenwood

Boston Medical and Surgical Journal

January 6 CLXXIV No 1 pp 1 36

34 Medical Testimony J W Courtney, Boston
35 Simplified Methods of Transfusion E H Risley, Boston
36 Insanity by Contagion B H Mason, Worcester
37 Latent Neurosyphilis and Question of General Paresis (To be continued) E E Southard and H C Solomon, Boston
38 Treatment of Headache J Herold, New York

Delaware State Medical Journal, Wilmington

October 1915 VI No 11, pp 1 26

39 Syphilis, Early, Late and Serum Diagnosis R W Tomlinson Wilmington

Indiana State Medical Association Journal, Fort Wayne

December 1915 VIII No 12, pp 537 590

40 Local Anesthesia in Major Surgery C O Bechtol, Marion
41 Surgical Tuberculosis of Abdominal Cavity V A Funk, Vincennes
42 Surgical Anatomy of Cleft Palate J R Eastman, Indianapolis

Journal of Nervous and Mental Disease, Lancaster, Pa.

December 1915 XLII No 12 pp 785 848

43 Case of Central and Peripheral Neurofibromatosis P Bassoe and F Nuzum, Chicago
44 Postnatal Growth of Brain Under Several Experimental Conditions H H Donaldson, S Hatai and H D King, Philadelphia.
45 *Extra Pyramidal Motor Disturbances Report of Case with Necropsy J H W Rhein, Philadelphia
46 Mental Disturbances in Feebleminded W N Bullard, Boston

45 **Extra-Pyramidal Motor Disturbances**—Rhein's patient a woman of 43, became paralytic in the left arm and leg at the age of 8 and remained in this condition until the time of her death Symptoms at the time of death consisted of paresis of the left arm and leg contracture of the Achilles tendon and spasticity of the knee-joint, contractures at the shoulder joint, flexor contractures of the left elbow and wrist retraction of the lower jaw, indistinct and spastic speech moderately fine, rhythmic tremor in the left arm and leg and tremor of the jaw, increased knee-jerk more on left without Babinski phenomenon or clonus The right side was unaffected Pathologically there was a lesion of the right putamen in its inferior and posterior portion, degeneration of the right ansa lenticularis, right red nucleus, left superior cerebellar peduncle and left dentate nucleus The left inferior olive was totally degenerated, the right to a slight degree and the right corpus restiforme was smaller than the left

Journal-Lancet, Minneapolis

Dec 15 1915 XXXV No 24 pp 679 704

47 Radium in Dermatology S E Sweitzer, Minneapolis
48 Single Licensing Examination H E French, *University* N D
49 *Syphilitic Disease of Heart and Aorta R D Mussey, *Rochester*
50 Treatment of Diabetes Mellitus W F Wilson, Lake City

49 **Syphilitic Disease of Heart and Aorta**—Of 1 379 patients with syphilis examined in the Mayo Clinic *during* the five years ending Jan 1, 1915 there were fifty-nine with diseases of the heart, aorta, and mediastinum which were

attributed to the specific disease, and fourteen in whom heart lesions were noticeable, but of secondary importance Only cases in which a definite diagnosis could be made are included in this report by Mussey and a number have been discarded because the history and findings were not sufficiently clear cut for the purpose of tabulation A large number of early cases in this way are possibly not included In fifty-three of the fifty-nine cases there were positive Wassermann reactions, a majority with total inhibition, and in the remaining 6 there were positive histories of syphilis In connection with this incidence it is of interest that many of the patients as they presented themselves were past the secondary stage Other infections may have played a part yet only four patients had had scarlet fever, four typhoid, three chronic and two acute rheumatism and two gave a history of attacks of tonsillitis Fifty of the patients were men and nine were women The oldest was 67, the youngest 27, and the average age was 47 years There were sixteen heart and mediastinal cases Of this group fifteen patients complained chiefly of dyspnea, five needing extra pillows when reclining The same number complained of pain, which was described as dull, sore, sticking or catchy, usually in the chest, but in two patients it was noted in the abdomen Other of the prominent symptoms were dizziness, congestion of the face and gastric disorders In three there was a history of edema The longest duration of symptoms was twelve years, the shortest two months, average, twenty-one months

Aortitis, 18 cases No special symptoms were prominent in this group Pain, dyspnea heart, and gastric disorders and weakness were most frequently mentioned Pain was noted in 12 cases, a history of edema in 3 Two patients were so dyspneic as to be unable to lie flat. The longest duration of symptoms was six years the shortest two months, average, two and one-half years In 11 cases the illness was constant, in 9, worse at times Aneurysm, 25 cases Pain was noted as the predominant complaint in 15 of these patients, and was present in all but 1 It was mostly precordial in 14 patients, down the left or right arm in others, to the back in 18, being described as dull, severe, progressive, or gripping, taking the breath in 1 nocturnal in 3, anginal in 1 Among other symptoms were abdominal disturbance in 2, swelling (aneurysmal mass) in 6, cough in 4, pressure, weakness or dyspnea alone in 3 Three patients gave a history of edema Four needed pillows, 2 because of pain and 2 because of dyspnea The longest duration of symptoms was twelve years, the shortest three months, average, six years and eight months In 23 of the 25 the complaint was constant, in 11 worse in spells In 24 of the total 59 cases comprising the series, pain was increased by exertion The prominent findings in the heart and mediastinal group were irregularity of the pulse and a tendency to tachycardia, the average rate being 98 In only 2 was the pulse noted as normal In the aortitis group irregularity of pulse was observed once only while the water-hammer was noted seven times in the 18 cases The average pulse rate was 87 A thrill over the aortic area or carotid was noted in 7 cases

Kansas Medical Society Journal, Topeka

December 1915 XV No 12 pp 359 388

51 Practical Points Regarding Wassermann Test for Syphilis C F Craig, Fort Leavenworth
52 Appendicitis Complicating Pregnancy Labor and Puerperium Report of Four Cases A J Weaver Concordia
53 Torsion of Pedicle of Ovarian Cyst Simulating Ruptured Extra Uterine Pregnancy E M Miers Saline
54 Bilateral Ovarian Sarcoma in Child Five Years Old with Large Retroperitoneal Metastasis H Wilkinson Kansas City
55 Nitrous Oxid Oxygen Anesthesia G C Mosher Kansas City

Kentucky Medical Journal, Bowling Green

January XIV No 1 pp 1 56

56 Study of Secretions of Mammae W E Gary Louisville.
57 *Limitations of Nitrous Oxid Oxygen in Surgery and Its Recent Use in Obstetrics W H Long Louisville
58 Present Status of Surgical Treatment of Goiter J R Wathen Louisville.
59 Surgery of Infected Hand W L Cambill Jenkins
60 *Diagnosis and Medical Treatment of Gastric and Duodenal Ulcers. J T McClymonds Lexington
61 *Gastric and Duodenal Ulcer (Surgical) M Casper Louisville
62 Importance of Posture in Examination, Operation and Treatment of Rectal Lesions G S Hanes, Louisville
63 Plea for More Conservative Surgery on Female Generative Organs A H Barkley, Lexington
64 Acute Suppurative Cholecystitis Complicating Typhoid J W Price, Jr, Louisville

57 **Use of Nitrous-Oxid-Oxygen in Obstetrics**—Nitrous oxid is the safest and best agent for producing analgesia or anesthesia in labor The author says it has no cumulative action, is under the complete control of the administrator at all times, has no untoward effect on the lung, heart or kidney, and is immediately eliminated on withdrawal The depth of its action can be readily controlled, and any degree from a light analgesia to a true anesthesia can be quickly produced at will, and an analgesia may be maintained as such indefinitely, it does not merge into a deep anesthesia unless the diluent, and pure oxygen has preference over the air, is diminished, thereby concentrating the nitrous oxid If version, forceps or any operative procedure becomes necessary the analgesia may be merged into anesthesia, which ordinarily may be continued indefinitely There is no danger to the child if the gas is in the hands of one expert in its use This, Long says, is the concensus of opinion on this question

60 and 61 Abstracted in THE JOURNAL, Oct 23, 1915, p 1484

Laryngoscope, St Louis

December 1915 XXV No 12 pp 803 866

65 Frontal Sinus Opening it Through Nose for Chronic Suppuration O T Freer, Chicago
66 Etiology of Pansinusitis. J G Wilson Chicago
67 Nonoperative Treatment of Accessory Sinuses L A Coffin, New York
68 Technic of Suspension Laryngoscopy R C Lynch, New Orleans
69 Posttyphoid Ulceration and Stricture of Esophagus. R L Moorhead Brooklyn
70 Case of Excessive Bleeder L. M Hurd New York
71 Direct Laryngoscopic Spatulum O Glogau New York
72 Antrum Trocar and Irrigating Cannula G B New, Rochester, Minn

Maine Medical Association Journal, Portland

December 1915 VI No 5 pp 193 220

73 Treatment of Facial Neuralgia with Deep Injection of Alcohol W D Williamson Portland
74 Space Sense and Labyrinth E M Holmes, Boston

Medical Record, New York

January 1 LXXXIX No 1 pp 1-46

75 Morbid Somnolence and Its Relation to Endocrine Glands C. I Dana New York.
76 Dyspituitarism, Particularly of Posterior Lobe W L. Niles New York.
77 Spasmodic Stricture with Dilatation of Lower Esophagus T W Grayson Pittsburgh
78 Treatment of Rheumatic Fever B Robinson New York.
79 Incest Epic of Freudians G M Parker New York
80 Frontal and Maxillary Sinusitis and Sequelae Due to Staphylococcus Pyogenes Albus R. Opdyke New York.

January 8 No 2 pp 47-88

81 *Period of Life at which Infection from Tuberculosis Occurs Most Frequently S A Knopf, New York
82 Medical Organization of Sickness Insurance M M Davis, Jr Boston
83 Mercury Elimination in Bichlorid Poisoning K M Vogel and O I Lee New York
84 Case of Unilateral Hydrocephalus E L Hunt New York.
85 High Frequency Current in Service of General Practitioner L Cohn New York.
86 Use of Steam in Treatment of Superficial Cancer W J Gillette Toledo
87 *Practical Method for Estimating Protein Content of Cerebrospinal Fluid J A F Pfeiffer Washington D C

81 **Period of Life at which Infection from Tuberculosis Occurs Most Frequently**—Knopf wrote letters of inquiry to well-known internists, specialists in tuberculosis and pediatrics From statistics and impressions gathered from the replies to those letters and from the perusal of the latest literature on the subject as well as from the results of his own experience the following conclusions are drawn Tuberculous disease in childhood compared with tuberculous infection is relatively rare (36 per cent), on the other hand, tuberculous infection is exceedingly frequent, generally speaking The frequency of infection increases with the age of the child and is affected by environment Lungs and lymph nodules are primarily most frequently involved Pre-

natal infection, while considered rare, is perhaps much more frequent than statistics show Nearly all the authorities consulted united in the opinion that in order to combat tuberculosis successfully in the young and old alike, we must diminish the sources of infection in childhood To accomplish this end, amend the federal and state laws which make it a criminal offense for a duly licensed physician in good standing to give advice concerning the means of preventing conception All cases of open tuberculosis, particularly the pulmonary and laryngeal types, should be required by law to be reported to the health authorities who in turn should be authorized to send the patient directly or through the attending physician carefully worked out instructions to prevent infecting others Cases which cannot be properly taken care of in the home, or when it is evident that they constitute centers of infection, should be transferred to sanatoriums, special hospitals, or at least to special wards in general hospitals

For the pregnant tuberculous woman there should be a maternity sanatorium or a special ward in existing maternities in which the prolonged antituberculosis treatment can be effectually carried out, and in cases in which mothers can receive such instructions as will guard their offspring from postnatal infection In cases in which there is the slightest suspicion of tuberculous infection of the infant by the mother, the child should have a healthy wetnurse or should be bottle fed Medically supervised country homes for poor tuberculous mothers and their children where they may remain until they can safely return to city environments, should be provided All children under 5 years of age should be subjected annually or semiannually, to the von Pirquet test and those who react positively and have in addition symptoms and physical signs should be placed under proper treatment All children between 5 and 15 years of age, particularly those attending public schools, should be subjected to a careful physical examination on entering as a pupil and an annual reexamination thereafter, always accompanied by a von Pirquet test Open-air instruction should be practiced whenever feasible The school authorities should have the right to investigate the home of any child attending public school when the teacher or school physician thinks that underfeeding, bad sanitary home environments, or child labor at home, are responsible for a poor physical condition of the pupil which might develop into tuberculosis

Child labor in factories, mines, canneries, stores, workshops, in the street or at home, must be abolished There should be an obligatory examination for tuberculosis and other serious diseases of every boy or girl prior to entering college or any occupation There should be periodical examinations for tuberculosis of all employees For those weeded out as tuberculous or afflicted with other diseases which incapacitate them for their usual work under ordinary conditions, there should be agricultural and industrial colonies in which these semi-invalids nevertheless have an opportunity to earn a livelihood There should be state insurance and obligatory private insurance against accident, old age, and diseases including tuberculosis for all earning less than $1,000 per annum, so that those fearing temporary or total loss of earning capacity will not be afraid to seek proper treatment in tuberculosis institutions We should have uniform bovine laws enforced by federal authorities in all states of the Union alike A continued propaganda for the education of the masses along these lines

87 **Method for Estimating Protein Content of Cerebrospinal Fluid**—Sulphosalicylic acid has been utilized by Pfeiffer for sometime in the routine examination of the cerebrospinal fluid for protein in the following manner, which has proved to be a most convenient, practical and satisfactory method 3 c c of a 4 per cent solution of sulphosalicylic acid are placed in a test tube 1 cm in diameter, and 0 5 c c of cerebrospinal fluid allowed to flow down the side of the tube onto the surface of the acid, when a characteristic white ring appears, if an excess of protein be present, which reaches its greatest intensity in two minutes An approximate estimation as to the degree of excess may be obtained by performing the test in several tubes, with dilutions of the spinal fluid from one to five, and comparing the results

Michigan State Medical Society Journal, Grand Rapids

January, XIV, No 1, pp 1 56

88 *Newer Methods of Diagnosis in Surgery of Kidney D N Eisendrath, Chicago
89 Recent Ideas Concerning Infection and Immunity V C Vaughan, Sr, Ann Arbor
90 Obstetrics from Modern Viewpoint A. M Campbell, Grand Rapids
91 *Osteoma of Frontal Sinus, Report of Case V A Chapman, Muskegon
92 Gonorrhea in Pregnancy and Puerperium C H Judd, Detroit
93 Case of Anthrax Serum Therapy W E Chapman, Cheboygan
94 Technical Improvement in Lange's Colloidal Gold Test Formaldehyd Vapor Method H S Hulbert, Ann Arbor
95 *Effect of Potassium Iodid on Luetin Reaction J W Sherrick, Ann Arbor
96 Case of Primary Carcinoma of Appendix C G Darling, Ann Arbor
97 Case of Congenital Cyst of Stomach W Lyon, Jackson

88 and 91 Abstracted in THE JOURNAL, Sept 25, 1915, p 1137

95 **Effect of Potassium Iodid on Luetin Reaction.**—Sherrick states that a positive pustular or nodular luetin reaction can be obtained in 99 per cent of all cases irrespective of the presence of syphilis, by the administration of potassium iodid, either simultaneously, or shortly before, or after the intradermal test Other substances, such as agar and starch, when injected intradermally, will give a similar reaction when potassium iodid is administered, but with these substances the potassium iodid must be administered within a shorter time than is the case with the luetin Other drugs containing iodin have a similar influence on the luetin reaction

New Mexico Medical Journal, Las Cruces

December 1915, XV No 3 pp 85 132

98 *Treatment of Pulmonary Hemorrhage* A G Shortle, Albuquerque
99 Types of Pulmonary Tuberculosis Wherein Only Much Granules Occur in Sputum R C Matson, Portland Ore.
100 Two Duties of Physician in Southwest Toward Tuberculosis Problem C E Edson, Denver
101 Plea for More Extensive Use of Tuberculin in Treatment of Tuberculosis W T Murphey, Albuquerque
102 *Tuberculosis of Larynx* I D Loewy, Silver City

New Orleans Medical and Surgical Journal

January, LXVIII No 7, pp 431 500

103 *Abuse of Charity in Charity Hospitals* W D Phillips, New Orleans
104 Abuse of Charity in Indoor Service J A Danna, New Orleans
105 Employers Liability and Hospital Charity M Bradburn, New Orleans
106 Abuse of Charity from Standpoint of Liability Companies and Workmen's Compensation Act H Rightor, New Orleans
107 Abuse of Charity from Standpoint of Hospital Management A B Tipping, New Orleans
108 Existing Fallacies Regarding Mental Disorders R P Truitt, New Orleans
109 *Causes and Pathology of Insanity* E M Hummel, New Orleans
110 Diagnosis of Early General Paresis H Daspit, New Orleans
111 Three Procedures of Assistance in Gynecologic Technic H W Kostmayer, New Orleans
112 **Case of Purpura Hemorrhagica Simplex Treated with Emetine Hydrochlorid* J C Cole and P L Querens, New Orleans

112 **Emetin Hydrochlorid in Treatment of Purpura Hemorrhagica.**—The most striking feature in the case cited by Cole and Querens was the bleeding from the gingival margins of the superior incisor and bicuspid teeth The ecchymotic area extended almost to the frenum of the mucous membrane, and the gums were bleeding freely, on having the patient hold his head in position so the blood could drop into a basin the rate was 40 drops per minute The gums on both margins showed an advanced pyorrheal condition On the right edge of the tongue near the tip there was a small ecchymotic spot the size of a pea The throat was negative As a local application to the gums, glycerite of tannin was tried, no improvement resulted in twenty-four hours so the drug was discontinued A 1 1,000 solution of epinephrin chlorid was substituted, which seemed to alleviate the condition slightly Calcium lactate in the powdered form, 15 grains every four hours, proved valueless The following day one-half grain of emetin hydrochlorid was administered intramuscularly, and almost immediately a hematoma about the size of a small peach formed at the site of puncture in the right arm Eight hours afterwad a similar condition occurred on the left arm, following a second administration The next day, on repeating the emetin, the results were

the same The patient's condition failed to improve and the ecchymotic areas increased in number and size, the calcium also had been continued Intravenous administration of the emetin was begun and one-half grain was given directly from the ampule, undiluted, into the median basilic vein, only a small ecchymotic spot formed at the site of puncture Six hours afterward the injection was repeated, and on the following day improvement was noticed in the gum condition and the failure of any more spots to appear The drug, same dosage, was repeated twice daily, alterating from right to left arm for each injection The hemorrhagic areas began to undergo the various colors associated with blood degeneration and no new spots appeared, the patient's general condition began to improve and he claimed that he felt better The emetin was continued until ten doses were given, when it was discontinued altogether, owing to the absolute disappearance of all symptoms

New York Medical Journal

January 8 CIII No 2 pp 49 96

113 Common Diseases of Ear S M Smith Philadelphia
114 *Present Status of Tuberculin Therapy H L Shively New York
115 Medical Treatment of Exceptional Children T A Williams Washington D C
116 Sarcoma of Inferior Maxilla. J D Whitall Philadelphia
117 Minor Communicable Diseases S W Newmayer, Philadelphia
118 Normal Stomach C W Perkins New York
119 Causes of Rickets The Roentgen Ray Findings W Jacobsohn New York
120 Syringing the Ear M Lubman New York

114 **Present Status of Tuberculin Therapy**—Shively believes in tuberculin therapy He says that for the production of good results from the action of tuberculin, it is necessary that there should not be too great a depression of the normal physiologic functions Patients with severe mixed infection or with grave complications such as diabetes or nephritis cases of acute miliary tuberculosis, and rapidly advancing cases of pulmonary tuberculosis with areas of softening and recent cavities, cannot be expected to react favorably to tuberculin Also many incipient cases do sufficiently well with the ordinary dietetic and hygienic treatment, with the medical supervision and regulation of their mode of life which can usually be best obtained in a well conducted sanatorium The special field, then, for tuberculin is that large group of patients with fairly good resistance, with little or no fever stationary or slowly progressive who are ineligible for, or cannot go to the sanatorium, or who have failed to attain a cure or arrest of their disease while at the sanatorium Shively believes the time has arrived when every tuberculosis clinic at least should have its tuberculin class Any well trained physician who is capable of administering vaccines or diphtheria antitoxin is also competent, with the exercise of good judgment and the necessary patience, to give the tuberculin treatment The problems in tuberculin therapy are essentially clinical and not of the laboratory, and the physician's best guide is a carefully recorded observation of his patient's temperature pulse, weight and general condition Many physicians are too busy, some are too impatient others perhaps are too lazy properly to administer tuberculin treatment They should not attempt it

New York State Journal of Medicine

November 1915 XV No 11 pp 415-456

121 Pathology of Syphilis J A Fordyce New York
122 Treatment of Syphilis in Primary Stage E L Keyes Jr, New York
123 Methods of Teaching Syphilology W T Corlett Cleveland
124 Determination of Relative Position of Rest by Prolonged Occlusion of One Eye. F W Marlow Syracuse
125 Tonsil in Its Relation to Rheumatic Infections T H Halsted Syracuse.
126 *Pyelitis Its Clinical Significance E. J Wynkoop Syracuse.
127 Can Pneumonia in Children be Aborted? T W Clarke Utica
128 Some Practical Questions on Metabolism C G Stockton and J L. Butsch Buffalo

126 Abstracted in The Journal, May 22, 1915, p 1790

Ohio State Medical Journal, Columbus

December 1915 XI No 12 pp 747 842

129 *Diagnosis and Medical Treatment of Gastric and Duodenal Ulcer J D Dunham Columbus.
130 *Diagnosis and Surgical Treatment of Gastric and Duodenal Ulcers F E Bunts, Cleveland
131 Factors Entering into Diagnosis and Treatment of Gastric and Duodenal Ulcer W D Haines, Cincinnati
132 Reminiscences of Treatment of Eye. S C Ayres Cincinnati
133 Gastric Lavage in Diabetes Mellitus. J P Sawyer, Cleveland
134 Some Practical and Modern Points on Dietetics. T W Grayson, Pittsburgh
135 Ohio Industrial Commission and Country Physician C. A. Hough, Lebanon
136 Intraspinous Injections of Salvarsanized Serum for Syphilis H M Brundage Columbus
137 Reorganization of Toledo Health Department Replacing Sanitary Police with Public Health Nurses D W Iford, Toledo
138 Typhoid Situation in Toledo C S Mundy Toledo
139 *Heart Affections from Gallbladder Disease and Appendicitis. M J Lichty Cleveland
140 Nasal Obstruction and Its Treatment C O Jaster, Elyria
141 Diphtheria in Ohio F G Boudreau, Columbus

129 **Medical Treatment of Gastric and Duodenal Ulcer**—Dunham closes his paper as follows Simple gastric and duodenal ulcer without stenosis should be treated medically by absolute rest in bed over a period of three weeks with an added residence in the hospital of three weeks Not until such rigid measures are employed should surgical intervention be considered Patients with an actual stenosis or with evidences of its onset should be subjected at once to surgical intervention The internist and not the surgeon is able to determine the percentage of cures following gastroenterostomy for gastric and duodenal ulcer The recurrences over a period of five to ten years are rarely seen by the operator The brilliant reports in gastric surgery would lose some of their glamour were results known after an interval of ten years The confidence of the internist in the surgical treatment of these diseases will be enhanced when the surgeon is willing to excise the ulcer bearing area as well as to perform a gastro-enterostomy In Dunham's small experience he has seen three patients develop carcinoma on an ulcer following gastro-enterostomy These patients exhibited no suggestion of a beginning carcinoma at the time of operation The percentage of permanent cures in gastric and duodenal ulcer is sufficiently low by either medical or surgical methods to justify a closer and more intimate cooperation between internist and roentgenologist, surgeon and the research worker

130 **Surgical Treatment of Gastric and Duodenal Ulcers**—Bunts holds that the possibility of cures under medical treatment must always be taken into consideration when deciding the question of operation Undoubtedly, he says, cures do occur under purely medical and dietetic lines of treatment but the well-known periodicity of symptoms makes it probable that many of the medical cures are really attributable to this factor Surgeons agree that medical measures should always receive first consideration, but recurring attacks should positively determine the necessity of surgical intervention Particularly is this true if severe pain, vomiting of small amounts of coffee-ground material or continuous hemorrhage be present Bunts is convinced, too, that persistent stomach trouble which has failed to respond to intelligent medical treatment and in which the diagnosis is so obscure as to prevent positive conclusions, demands an exploratory operation, at least

139 **Heart Affections from Gallbladder Disease and Appendicitis**—Cases are cited by Lichty to show that many cases of functional and organic disease of the heart are caused by disease of the appendix and gallbladder Surgery is often the only method by which these diseased hearts may be improved or restored to health These hearts are not improved much or permanently by purely medical treatment (Vaccines may have their indication) It is surprising says Lichty, to see how well many of these cases bear operation, even though the patient is found in extremis, and the operation hazardous Under these circumstances a good surgeon, a skilled anesthetist, and a competent internist are essential for safety and a favorable termination If the heart is to be benefited it is just as important to operate early and before the patient's condition becomes incurable, as it is important to do any other surgical operation at an early period Whenever surgery of the gallbladder or appendix is indicated but deferred until the heart is seriously damaged, somebody is responsible, be it physician surgeon or patient

Old Dominion Journal of Medicine and Surgery Richmond, Va

December, 1915, XXI No 6 pp 257 276

142 Phases of Problem of Alcoholism Based on Previous Personal Investigations A Gordon, Philadelphia
143 Diagnostic Significance of Alterations in Blood Pressure F M Hodges, Richmond
144 The Prostatic Portion of Male Urethra C O Abernethy, Raleigh
145 Verumontanumitis L T Price, Richmond

Pennsylvania Medical Journal, Athens

December, 1915 XIX No 5, pp 149 230

146 Hospital and Home Isolation D L Richardson, Providence, R I
147 Quarantine of Home as Practiced by Department of Health in Pennsylvania S G Dixon, Harrisburg
148 *Hemoptysis in Pulmonary Tuberculosis, Its Treatment E H Funk, Philadelphia
149 Clinical Findings of Foreign Body in Air Passages of Children H T Price, Pittsburgh
150 *Intramuscular Injections of Antitoxin* S S Woody, Philadelphia
151 **Acute Surgical Diseases of Pancreas* J B Deaver, *Philadelphia*
152 Ethmoiditis, Its Varied Effects and Their Probable Prevention, or When Fully Established, Their Possible Cure J L Davis, Philadelphia
153 Some Points on Applied Anatomy of Temporal Bone D G Metheny, Philadelphia

148 Abstracted in The Journal, Oct 30, 1915, p 1579
151 Abstracted in The Journal, Oct 16, 1915, p 1399

South Carolina Medical Association Journal, Anderson

December, 1915 XI No 12, pp 370 403

154 Clinical Significance of Albuminuria J J Watson, Columbia
155 Diseased Kidney, Infections in General, with Special Reference to Acute Pyelonephritis Complicating Pregnancy M H Wyman, Columbia
156 Pyelitis, Its Diagnosis and Treatment W R Barron, Columbia
157 Endoscopy, Its Value in Urologic Practice C A Mobley, Rock Hill
158 Plea for More Thorough Examination of Urologic Cases E C Baynard, Charleston
159 Functional' Capacity or Efficiency of Kidneys C F Ross, Anderson
160 Puerperal Septicemia A W Browning, Elloree
161 Use of Emetine Hydrochlorid as Abortive in Treatment of Typhoid O D Busbee, Springfield

FOREIGN

Titles marked with an asterisk (*) are abstracted below Single case reports and trials of new drugs are usually omitted

Archives of Radiology and Electrotherapy, London

December, 1915, XX, No 7, pp 209 242

1 Value of Electrocardiograph in Diagnosis of Diseases of Heart G E S Ward
2 Gas in Tissues J M W Morison
3 Alternating Current from Public Mains in Treatment of Neuritis and Muscular Atrophy H Bordier
4 New Apparatus for *Localization of Foreign Bodies* R. Hallam

British Medical Journal, London

Dec 18, 1915, II, No 2868, pp 881 912

5 *Classification of Meningococci Based on Group Agglutination Obtained with Monovalent Immune Rabbit Serums A. W M Ellis
6 *Grouping of Strains of Meningococcus J A Arkwright
7 Some of Effects of Exposure to Wet Cold and Their Prevention S Delepine
8 Carrier Problem at Home in Time of War E C Hort
9 Chronic Poisoning by Emetine H H Dale

5 **Classification of Meningococci**—Ellis summarizes his paper as follows The causative agent of cerebrospinal fever, the meningococcus, is of at least two types These two types are, as regards the one immune reaction tested, agglutination, absolutely independent In a study of forty-six strains of meningococci, obtained from various sources, all were of one or other of these two types Both types are widely distributed, having been found in each of six epidemic foci They may occur with equal frequency Both types have been found in the nasopharynx of healthy carriers Ellis has designated these two types Types I and II In so far as evidence is available, Type I has been more frequently the cause of the disease in the recent epidemics than has Type II In view of the wide distribution of the two types both must, however, be held equally responsible as causative agents of cerebrospinal fever The organism Ellis describes as Type II, he suggests is probably identical with the parameningococcus of Dopter It is also suggested that in the treatment of cerebrospinal fever better results might be obtained, and more exact knowledge of the adequacy of serum treatment gained, if monovalent horse serum of appropriate type, and therefore known to be active against the infecting organism, were employed in place of the polyvalent serums at present in use

6 **Grouping of Strains of Meningococcus**—Thirty out of thirty-two strains of meningococci tested by Arkwright agglutinated with a polyvalent rabbit serum prepared with six strains isolated in the same epidemic Thirty strains *isolated during the present* epidemic fall into two main groups according to agglutination tests Five other strains presented difficulties in their classification These two main groups correspond to Dopter's classification into meningococcic and parameningococcic The numbers falling into the two groups—meningococcic and parameningococcic—were 18 and 12, respectively, that is, 3 to 2 There is some evidence that two of the five unclassified strains were intermediate in character between the two main groups Neither group was more frequently found among cases from one district than from another Rapidly fatal cases of meningitis occurred with infection with either type of meningococci

Indian Journal of Medical Research, Calcutta

October, 1915 III, No 2 pp 205 396

10 Note on Two Thousand, Six Hundred and Forty Three Medicolegal Cases, in which Six Thousand, Five Hundred and Sixty Six Articles, Suspected to be Blood Stained were Examined. W D Sutherland
11 *Effect* of Hemolytic Drugs, Toxines and Antiserums on Hemolytic Point (So Called Isotonic Point) and Association Between this *Point and Hemoglobinuria* S R *Christophers* and K. R K Iyengar
12 Sumatran Culicida A T Stanton
13 *Production of Gallstones in Rabbits Following Intravenous Inoculations of Cholera Like Vibrios E D W Greig
14 Epidemiologic Significance of Repeated Infections and Relapses A G McKendrick
15 Epidemiologic Significance of Splenic Enlargement in Malaria A G McKendrick.
16 *Treatment of Snake Bite H W Acton and R Knowles
17 Pilotaxy of Anopheles S R Christophers
18 Male Genitalia of Anopheles S R. Christophers
19 Occurrence of Stygeromyia Maculosa at Kasauli and *Its Breeding* Place J L Mitter

13 **Gallstones Produced by Vibrios**—The lesions of the gallbladder of rabbits following intravenous injections of vibrios described by Greig, he believes no doubt form centers round which *the calculus is deposited The animals* in which the lesions described occurred, were both immunized with cholera-like vibrios, in the one case with a vibrio derived from the stools of a case of cholera and in the other from a tank the water of which is used by pilgrims

16 **Treatment of Snake-Bite**—With the remedies at present available for the treatment of bites from poisonous snakes, *if properly applied*, Acton and Knowles states that it should be possible to save a large percentage of the cases which now prove fatal The general line of procedure suggested is as follows 1 Apply a firm ligature immediately 2 Impregnate the whole area of the bite with a *hypodermic* injection of a strong solution of gold chlorid 3 Inject from 100 to 200 c c of antivenene intravenously, if the biting snake be suspected to have been a cobra or Russell's viper If symptoms of venom intoxication come on, further and even larger injections of antivenene should be given intravenously With serums concentrated 10 times, a dose of 20 to 60 c c should save every case of cobra bite

Lancet, London

Dec 18, 1915 II No 4816 pp 1331 1384

20 Superstitions of *Menstruation* R Crawfurd
21 Early Operative Treatment of Gunshot Wounds of Alimentary Canal C Wallace
22 Responsibility for Crime B Donkin
23 *Incidence of Renal Retinitis in Soldiers *Suffering* from Epidemic Nephritis R F Moore
24 Bullet Wound of Esophagus A W Nuthall
25 Subcutaneous *Injection* of *Distilled* Water *for* Multiple Ulcers G A Stephens

23 **Renal Retinitis in Soldiers Suffering from Epidemic Nephritis**—The result of the ophthalmoscopic examination of 119 soldiers suffering from epidemic nephritis is analyzed by Moore In 5 cases renal retinitis either was present or developed while the patient was under observation Of the remaining 114 there were 7 in whom small retinal hemorrhages were present and 107 with normal fundi The retinal hemorrhages in the seven cases were small and few The average systolic blood pressure in 70 men with normal fundi was 143 mm, whereas that of the 5 men in whom retinitis developed was 180 mm The average interval between the date of the onset of symptoms and the ophthalmoscopic examination in those without retinitis was five and one-half weeks In the case of the 5 men in whom retinitis developed, the interval between the onset of symptoms of nephritis and the development of retinitis, as near as could be judged, was seven weeks The retinitis which developed did not differ in appearance in any essential from the retinitis of chronic nephritis In each of the men in whom it occurred the general symptoms were severe, and in general, the more severe these symptoms the more extensive were the changes in the retina In three cases detachment occurred and of these two cases of the transparent globular type, which are due to the presence of serous fluid in the subretinal space In one case the detachments were of the flat variety, such as are due to the presence of solid exudate under the retina Circular pigment spots which are produced by the proliferation of the pigment epithelium, and which are seen in a retinitis of some standing were present in two cases There is no doubt in Moore's mind that the great majority of these 119 men were suffering from a primary acute nephritis, and were not the subjects of a preexisting chronic nephritis In four cases in three of which retinitis was present, the blood serum was opalescent and in two of them it was especially dense This opacity was found to be due to the presence of lecithin globulin The fundi in these cases did not show the characteristic picture of "lipemia retinalis"

Journal de Médecine de Bordeaux, Paris

December 1915 LXXXVI No 2 pp 21 36

26 *The Histologic Processes Involved in the Healing and Restoration of Function in Traumatized Nerves A. Pitres

26 **Suture of Severed Nerve.**—Pitres has made an extensive microscopic study of the histologic processes involved in the restoration of function in sutured nerves, and declares that suture of the nerve during the hours that follow the traumatism is logical and often useful It facilitates repair but no matter how perfect it does not prevent the degeneration of the peripheral stump Any cases reported of immediate or ultra rapid restoration of function in a severed nerve are unable to stand criticism Tardy suture rarely gives favorable results because this can be done only by profoundly disturbing the healing processes proceeding in the central stump Resection of the central stump at this time is rarely useful and almost invariably does harm by destroying the histologic work already accomplished by the true nerve fibers here

Paris Médical

Nov 6 1915 V No 26 pp 449 464

27 Gunshot and Shell Wounds of the Chest. (Plaies penetrantes de poitrine par blessure de guerre) E Remond and R Glenard
28 Extermination of Lice (Les Poux Destruction procédés divers et leur mode d action) H Labbé and M Wahl
29 *Typhus in Serbia M J Minkine.

November 27 Nos 28 29 pp 481 524

30 *Present Status of Treatment of Wounds in War (Le traitement des plaies de guerre) Soubeyran
31 Folding Stretcher for the Trenches. (Brancard articulé.) Barthélemy
32 Arrangements for Early Care of the Wounded (L'organisation et le fonctionnement d un poste de secours regimentaire.) L. Binet (Le fonctionnement des ambulances dans les services de l avant) M Barthelemy (Fonctionnement d un service de chirurgie dans un hopital de l avant) E Vayssiere (Un mois de chirurgie abdominale au front.) Delay and Lucas Championnière
33 Two Roller Sheets for Wounded Man Rods Introduced at Sides and Braces Head and Foot Transform Them into Stretcher Leaving Wounded Area Accessible from Above and Below (Brancard demontable pour mobilisation des grands blesses couches) Garipuy
34 *Meningitis Service in a Field Hospital (Fonctionnement d un service de meningites cerebro spinales dans un hopital de l avant) J Pignot and J Terrasse
35 *To Promote Healing of Wounds on Feet Subject to Morbid Sweating (Cicatrisation des plaies chez les hommes atteints de sudation des pieds) Le Tanneur

29 **Typhus**—Minkine noticed that a sudden change of mood, glumness and depression, was sometimes the first sign of typhus One evening he felt weary and quarrelsome, without any special malaise, but a general disinclination to any effort A week or ten days later the typhus infection manifested itself clinically During this incubation period the temperature assumed the tuberculosis type in one physician who had been systematically taking his temperature morning and night for months During the eight days that preceded the fatal attack of typhus there was an evening rise of temperature The clinical picture of typhus is dominated by the symptoms on the part of the heart Three fourths of those who die succumb to heart failure developing suddenly toward the twelfth day Immediate injection of 20 or 30 c c of ether-camphorated oil, without waiting to send for help, when syncope of this kind was noted in a typhus patient, reduced the mortality by more than 60 per cent The internal ear evidently suffers in typhus, as more or less deafness was left in the majority of cases he had in his charge

30 **Treatment of Wounds in War**—Soubeyran is convinced that the artificial nutrient fluids such as Ringer's and Locke s, afford the best conditions for repair of wounds He reviews the various methods of treatment in vogue and reiterates that nothing in his experience gives such good results as these nutrient fluids The wound must first be opened up and effectually cleaned out—the mechanical stage of the treatment This is followed by the antiseptic stage striving to disinfect the wound with some antiseptic solution, keeping the strength below the concentration that will injure the cells Then comes the physiologic stage, when everything aims to promote repair, and here the artificial nutrient serums afford the best possible conditions For months he has been using Schiassi's serum for the purpose, as this contains calcium and potassium to strengthen the cells, sodium to combat acidosis, and sugar as a tonic and nutrient. The formula is 6 5 gm sodium chlorid, 0 3 gm potassium chlorid, 1 gm fused calcium chlorid, 0 5 gm sodium bicarbonate, 1 5 gm glucose and 1,000 gm distilled water

34 **Epidemic Meningitis**—A service for serotherapy of epidemic meningitis was organized close to the firing line and all suspects in the region are sent there at once. This permitted prompt recognition of other causes for the meningitic symptoms in some cases, and prompt trephining releasing extravasated blood, soon cured the patients of their supposed epidemic meningitis Painful stiffness of the back of the neck, sometimes only when the head is passively moved was the most reliable early sign There is no photophobia, as with tuberculous meningitis but hyperesthesia and hyperalgia were constant and in some cases there was opisthotonos like that of tetanus The pulse was unstable from moment to moment but not retarded A number of the patients developed symptoms indicating a toxic action from the serum, as the sterile spinal fluid showed that the cocci had been conquered In other cases the spinal fluid disclosed that the disease had relapsed Of the twenty-six patients with meningitis received during four months, all recovered but four The head and shoulders were lowered for forty-five minutes after the intraspinal injection of serum and no drugs were given except 1 gm of hexamethylenamin and 250 gm of salt solution with 0 10 or 0 15 gm sparteín to stimulate diuresis at need Vegetable soup and milk formed the only diet during the acute phase The men were sent home to convalesce after a few weeks during which measures to disinfect the nose and throat were vigorously applied

35 **Healing of Wounds on Feet Subject to Excessive Sweating**—Le Tanneur has found that the excessive sweating prevented normal healing and was able to combat this effectually by having the man hold his feet *in very* strong sulphurated water for ten or fifteen minutes a day

same in children as in adults When a person with an apparently mild simple catarrh of the upper air passages tires extremely readily, *there* is probably a substratum of grippe Many affections of various organs may owe their origin to a latent or unheeded grippe *In* puzzling cases of sickness, the long persistence of a temperature rather below the normal suggests the presence of grippe Treatment must meet the varying conditions encountered He mentions only "drugs to promote resolution, inhalation apparatus and quinin" as proving serviceable

68 **Various Methods of Treating Typhus**—Coglievina describes the favorable effect of exposure of the skin to the direct rays of the sun for an hour, with cold *compresses* to the head This heliotherapy seems to annul the toxicity of the circulating blood The temperature drops by one degree C but as the effect passes off the toxic influence is felt *again* Roubitschek has reported *that under* subcutaneous *injection* of normal horse serum a hyperleukocytosis is *induced*, which was evidently a factor in the reduction of his mortality from 30 to 6 per cent Mollow has also reported favorable results from a sensitized vaccine Coglievina has been using hexamethylenamin extensively, giving it in 1 gm doses at first three times then four times and *then*, continuously, five times a day The influence of this treatment was actually excellent It seemed to aid in the sterilization of the lungs as well as combating the serious cerebral symptoms of the disease He waits for a wider experience *before* going further into details

75 **Is the Wassermann Reaction Induced by Thrombosis?**—There was nothing to suggest syphilis in the two cases of old thrombosis reported, but the Wassermann reaction was positive in both The thrombosis in the man was in the leg, apparently a relic of typhoid years before The other patient was a young woman with phlebitis of unknown origin in the right leg The striking positive responses in these cases suggest that thrombosis alone may elicit a positive reaction

Munchener medizinische Wochenschrift, Munich

No 30 1915, LXII, No 48 pp 1633 1668

77 *Pituitary Treatment Proves Specific in Case of Diabetes Insipidus (Beziehung des Diabetes insipidus zur Hypophyse und seine Behandlung mit Hypophysenextrakt) G Hoppe Seyler
78 Roentgen Localization of Foreign Bodies (Neue Methode der Fremdkörperlokalisation) W Neumann
79 Differential Diagnosis of Mercury and of Salvarsan Eruptions (Verwechslung von Quecksilber und Salvarsanexanthemen) W Wechselmann
80 Open Puncture of the Pleura (Zur Verstandigung über die offene Pleurapunktion) A Schmidt.
81 Filters for Light. (Lichtfilter) F Schanz
82 Relation of Life to Light (Beziehungen des Lebens zum Licht) Stellwaag
83 *Epidemic Meningitis, Twenty One Cases F Goebel and O Hess
84 Open, Dry Treatment of Gas Infection (Offene austrocknende Wundbehandlung bei Gasinfektion, insbes bei Gasgangran) H Schloessmann
85 Fracture of the Femur (Zur Frage der Versorgung der Ober schenkelschussbrüche im Felde) H Rummel
86 Examination of Troops for Cholera (Ueber Choleramassenuntersuchungen) P T Muller
87 Disease in Cattle and Other Domestic Animals Resembling Gas Gangrene (Rauschbrand und Gasbrand) Steinbruck
88 Injury of the Ears in War (Ueber Kriegsschadigungen der Ohren) E Weil, (Zur Behandlung der Ohrerschutterungen) O Hamm
89 Carrying the Wounded in the Trenches (Ueber die Beforderung von Verwundeten im Schützengraben) F Zieglwallner, (Neue Transportschienen) H Kloiber
90 Elastic Dressings to Prevent Deformity (Elastische Verbände.) J Fuchs
91 *Campaign against Syphilis in Bosnia (Bekampfung der Syphilis) V L. Neumayer
92 *Always Bandage Both Eyes after Injury of One. (Ratschlage fur Augenverletzungen) Weber

77 **Relations Between Diabetes Insipidus and the Pituitary Body**—Hoppe-Seyler reports treatment with pituitary extract of diabetes insipidus in a man of 25 Marked improvement was evident, not only the amount but the concentration of the urine returned more to normal Under atropin the amount of urine voided was less *but the* urine also became less concentrated This confirms the assumption that vasomotor nervous influences are responsible for the polyuria and not lesions in the kidney cells The response to the pituitary treatment was *prompt*, marked and constant, and the improvement stopped and retrogressed when it was suspended *Even very small* doses were followed by such benefit that it seems beyond question that the pituitary extract *supplied* some *missing element* We can assume confidently, he says, that the hypophysis in this case is functioning inadequately although nothing abnormal in it can be detected by roentgenoscopy, and tests for syphilis and tuberculosis are negative No effect was realized with pituitary treatment by the mouth, the extract *had to be given by* subcutaneous injection The favorable therapeutic effect is comparable to that of thyroid treatment in myxedema The urine findings day by day over several months are shown in a chart

83 **Epidemic Meningitis**—Goebel and Hess comment on the striking absence of contact infection in the cases of meningitis they encountered in 1915 One patient was for almost two weeks in a room with other sick, but no infection resulted Headache was a constant symptom *The onset of the disease* in one case was accompanied by delirium amounting *to actual mania, but the man recovered* In another case the joints swelled and acute rheumatism was diagnosed at *first* In one fulminating case the Kernig sign did not appear, and, in another, *not until the* disease had dragged *along for two months* Besides intraspinal serotherapy, they had the *men take the* serum into the nose, and gargle with it They gave it by subcutaneous injection also in some cases at first But they warn that as soon as the severest phase of the infection is past it is best *to* be cautious with renewed serotherapy Too long continued, it seems to rouse the infection to flare up anew With persisting headache, fluid can be withdrawn down to *normal* pressure without further injection of the serum All their patients were kept out of doors during the day and slept with open windows at night Of the six fatal cases, four were almost moribund when first seen and the other two did not get serotherapy until the disease had been under way for eight or ten days Necropsy revealed in one case pneumonia with the meningococcus in pure cultures, in *another case there* had been pronounced cerebral symptoms, evidently merely of toxic origin as the brain was found intact and only the spinal cord *found affected* Excluding the moribund cases, the mortality was 11 8 per cent , even including them, it represented a great improvement over the preserotherapy days

91 **The Public Combating of Syphilis**—A physician writes from Bosnia to describe the measures taken there against syphilis About seven years ago a systematic campaign was undertaken by the authorities Once a year all the inhabitants of each community are assembled and the district physician examines each one for syphilis As the disease is acquired mostly by extragenital infection, it can usually be detected by examination of the visible skin and mucosae Only in dubious cases is it found necessary to extend the examination to other parts of the body Those found infected are registered and they are supposed to be reexamined once a month the first, once every two months the second year, and so on until they *have been* free from manifestations for five years The writer relates that as his district was the most infected, he has accumulated a unique mass of data which he is now working up for publication In connection therewith he begs all who have published statistical articles on the fate of syphilitics to send him reprints of their works At this remote post he is cut off from the medical literature of the world Address Dr Vic L Neumayer, Kljuc, Bosnia

92 **Injury of the Eyes**—Weber expatiates *on* the necessity for bandaging the sound eye as well as the injured eye The main reason is to protect against infection, but almost equally *important* is the sparing the injured eye the coordinated movements in accommodation which necessarily occur when the sound eye is allowed to function

Therapie der Gegenwart, Berlin

November 1915 LVI No 11, pp 401-440

93 Suppurative Colitis and Chronic Ulcer of the Rectum G Klemperer and L Dunner To be continued
94 *Vagotony in the Soldiers (Die Vagotonie, eine Kriegskrankheit) C von Dziembowski

95 The Rhythm of Health in the Subconsciousness (Vom Rhythmus der Gesundheit und vom Standort des Menschen) C Widmer
96 Chronic Infectious Processes in the Mouth as Reducing Fitness for Service (Die chronischen Infektionen im Bereiche der Mundhohle und der Krieg, insb ihre Bedeutung fur die Wehrfahigkeit und fur die Beurteilung von Rentenanspruchen) H Passler
97 Open Air Wards in General Hospitals (Krankenbehandlung im Freiluftsaal) L. Dunner

94 **Vagotonia a War Malady**—Von Dziembowski relates that the combination of symptoms which result from morbidly exaggerated tonus in the autonomic nervous system is being encountered very frequently in the military hospital to which he is attached at Posen It is a well defined neurosis of the vegetative nervous system and it may occur alone or associated with other troubles The symptoms often suggest organic disease and thus may prove misleading This is particularly important as the vagotony syndrome can be easily and promptly dispelled by reducing the tonus of the vagus nerve with atropin The symptoms of vagotony may be manifest in any or all of the viscera, in the heart, respiratory apparatus etc but its most typical manifestation is bronchial asthma, he says and in no other of its manifestations is the characteristic blood picture so pronounced The blood picture alone, he adds is enough to differentiate vagotony Besides notable eosinophilia, there is a relative increase in the numbers of lymphocytes and a relative reduction of polynuclear cells The figures usually were from to 5 to 12 per cent eosinophils 35 to 50 per cent lymphocytes and 45 to 55 per cent polynuclears, and this combination seems to be pathognomonic. As a rule vagotony is encountered with other signs of physical inferiority, but some of the men with it were powerfully built They are all young men Bradycardia on pressure of the eyeballs is scarcely ever lacking The pulse also may grow slower as the man bends far forward The pulse also is liable to be accelerated and smaller during inspiration, while it slows up and becomes higher during expiration

Spasmodic contraction of the esophagus and stomach may simulate a stricture, but normal conditions return at once under a course of atropin This seems to be the only means to differentiate vagotonic spasm of the pylorus with hypersecretion from actual gastric ulcer Excessive sweating, spastic constipation or diarrhea and orthostatic albuminuria are liable to be other features of the vagotonic picture The sweat poured from the axillae in two men he was examining until there was a wet space the size of one's hand on each side on the floor The palate in those inclined to vagotony may be arched high the ear lobules grown to the cheek, the head and face inclined to asymmetry, the brow prominent, the hair growing low down The pupils are narrow but the distance between the eyelids is over normal, the mucosa of the throat is pale and not very sensitive The follicles of the tongue are prominent, and the tonsils are usually enlarged Such persons tire easily and their musculature is sensitive He regards it as great progress that we are able to decide as to the harmless nature of albuminuria as a rule, when it occurs with other symptoms of vagotony When the vagotonic disturbances occur in paroxysms he gives the atropin subcutaneously at first and then continues with small doses by the mouth, kept up a long time With chronic vagotony he gives it by the mouth in fractioned doses The effect is prompt and striking unless secondary anatomic lesions have developed as in old cases of asthma

Wiener klinische Wochenschrift, Vienna

Nov 11 1915 XXVIII No 45 pp 1217 1248

98 Injuries of the Eyes in War E. v Grosz.
99 Immunization with Formaldehyd Treated Tetanus Toxin Improved Technic for Production of Antitetanus Serum (Ueber Immunisierung mit durch Formaldehyd verandertem Tetanustoxin) M v Eisler
100 Injuries of the Ear in War (Kriegsverletzungen des Ohres) I Hofer
101 Intravenous Saline Infusion in Typhoid M Englander
102 Apparatus for Distinguishing between True and Simulated Deafness. (Apparat um Taubheit Simulierende zu entlarven) J Kindlmann

November 18 No 46 pp 1249 1272

103 *Fitness for Service with Heart Disease (Ueber die Konstatierung bei Herzkranken) L Braun
104 Fatal Paratyphoid Enteritis Four Cases L R v Korczynski
105 *Disturbances in Urinary Apparatus from Getting Chilled (Kriegserfahrungen uber Erkaltungskrankheiten der Harnorgane) V Blum
106 *Vital Staining of Spirochetes (Die Vitalfarbung zum raschen Nachweis der Spirochaete Obermeieri) O Weltmann
107 Care of Fractured Femur (Versorgung der Oberschenkelfrakturen im Felde.) K R Werndorff
108 The Large Instrument Kit in the Austrian Army (Der grosse Instrumentenkasten, Modell 1900) K Springer

103 **Differentiation of Functional and Organic Heart Disturbances**—Braun has to pass judgment on the capacity for military service of soldiers presenting disturbances on the part of the cardiovascular system, and he expatiates on the aid afforded in differentiation by roentgenoscopy, electrocardiography and other modern methods of examination In respect to extrasystoles, for instance, the graphic tracings permit the exact diagnosis of any tendency to heart block and thus, when this can be excluded, show that the extrasystoles are a harmless irregularity, not impairing the fitness for service When there is a systolic murmur at the orifice of the aorta growing louder after exertion, and the Wassermann test is positive syphilis may be assumed without further evidence An attack like that of angina pectoris may occur at any moment If the man is an officer, such an attack during some military crisis might lose a battle In a private soldier the attack would be less liable to have more than private personal import Neurasthenic heart disturbances may be hard to differentiate from the organic, especially when both are associated

We are in the habit of designating neurasthenia by the organ to which the patient refers his main symptoms, as for example we speak of nervous dyspepsia, cardiac neuroses, spinal or sexual neurasthenia, etc Braun emphasizes, however that we must bear in mind always that neurasthenia is a general constitutional affection, characterized by abnormal irritability and readiness to fatigue of the central nervous system We have to distinguish in it further the purely subjective from the objectively evident physical symptoms induced by the general nervous overexcitability Neurasthenia consequently must be judged not from the partial symptoms of the concrete case but from the general mental and psychic disposition of the individual In estimating the import of heart disturbances, therefore, the first step is to exclude neurasthenia or, if this is present, to exclude organic disease

Among the objective features of arrhythmia for which the neurasthenia alone is responsible are (1) the respiratory type of the arrhythmia that is, the pulse is accelerated during inspiration while it lags during expiration With deep breathing this becomes quite marked (2) The radial pulse grows smaller, with or without any modification of its frequency, when light pressure is applied with the finger-tips to the heart region As the pressure is released, the next pulse beat sometimes the second or third, is higher, often much higher than the following beats (3) Modification of the interval of time between the contraction of the auricle and that of the ventricle This of course requires a graphic tracing of the venous pulse (4) Change in the size of the area of dulness when the right lower margin of the heart is percussed As this phenomenon is due to change in the size of the auricle, there are parallel fluctuations in the height of the auricle peak in the venous pulse tracing Braun is now studying these four phenomena, trying to correlate them with special degrees of neurasthenia, and also with combinations of neurasthenia and various heart changes

105 **Urinary Disturbances from Getting Chilled**—Blum relates that a thorough warming of the body in a bed or hot bath usually corrected the mildest degree of such disturbances from getting thoroughly chilled The disturbances may range from merely increased desires to urinate to the severest form of incessant and distressing desires day and night, with power to void only a few drops every five minutes of an apparently normal urine with disagreeable sensations smarting in the posterior segment of the urethra, a condition of permanent drizzling of urine with the bladder

empty There seems to an abnormal spastic condition When this progresses until there is residual urine, then the bladder muscle may show hypertony accompanied by rectal tenesmus He noticed that the overwhelming majority of the soldiers presenting these urinary disturbances after getting chilled had been subject to excessive sweating of the feet The symptoms resemble those of the so-called irritable bladder, and the same factors are probably at work in both except that the getting chilled is the exciting factor With the spastic disturbances, recovery is soon complete under treatment, as a rule, but permanent residual urine debars the man from active military service The catheter, by revealing the residual urine excludes malingering

106 **Vital Staining of Spirochetes**—Weltmann refers to the spirochete of relapsing fever It is shown up bright blue and lively in its movements when a drop of the blood, on a cover glass is laid on a slide coated with a concentrated alcoholic methylene blue solution A drop of the stain is spread over the warmed slide by the edge The spirochetes in contact with the stain show up bright blue in contrast to the yellowish green blood corpuscles, but the spirochetes soon lose their motility They retain it for several hours by Leporsky's original technic in which the stain in the form of powder (a mixture of brillantkresyl blue and Sudan III) is added to the drop of blood and a cover glass is placed on the slide and the edges closed with vaselin Mouth spirochetes show up better with a half saturated solution of gentian violet, but they lose their motility The pale spirochete does not take stains so well He has had no opportunity to apply this technic to it

Policlinico, Rome

Nov 21, 1915, XXII No 47, pp 1569 1604

109 *Pellagra and its Prophylaxis P Rondoni
110 *Paralysis Agitans (Caso di malattia del Parkinson) G A Rizzuto

November 15 Surgical Section No 11, pp 509 556

111 *Proliferation of Lymphatic Tissue in the Kidney (Sulla iperplasia e sulla neoformazione di tessuto linfatico nel bacinetto renale e nel rene) O Finzi
112 Scattered Nodules in Neck Metastases of Lip Cancer (Caso di metastasi atipica da epitelioma del labbro inferiore) A M Caruso
113 *Deviation of Complement Test in Echinococcus Disease (La prova di Bordet e Gengou nella infestione echinococcica dell 'uomo) L C Zapelloni Commenced in No 6
114 Mixed Tumors of the Palate G Morone To be continued

109 **Pellagra**—Rondoni discusses the various theories as to the causes of pellagra, saying that evidence is accumulating in favor of a too one-sided diet as undoubtedly an important factor in the development of the disease Consequently he urges the authorities to educate the public into more hygienic habits in regard to food, promoting the cultivation of vegetables and the dairy, poultry and cattle industries The high price of wheat at present, he adds, is driving people more and more to the cheaper corn meal, and pellagra will probably prevail even more than in the past unless physicians and the authorities in general rouse to more vigorous measures to induce the people to make greater use of green vegetables, rabbit meat and other inexpensive articles of food

110 **Paralysis Agitans**—Rizzuto emphasizes that the hypertonicity of the muscles, rather than the tremor, is the main feature of shaking palsy It seems to be comparatively rare in Italy, and he reports a case in which after a few months of unusual business worry, a man of 48 was assaulted by bandits and the syndrome gradually developed of Parkinson's disease, progressing till his death at 85 Rizzutto reviews the various theories as to the nature of shaking palsy and describes the various treatments instituted in this case and given thorough trials, all to no avail He remarks that the nature and seat of the process responsible for shaking palsy is still a mystery and that no authentic case of recovery is known

111 **Lymphatic Tissue Nodules in the Kidney**—Finzi describes a case in which bunches of lymphatic tissue were found under the mucosa of the renal pelvis The bunches were not of the nature of neoplasms in the three known cases but were aberrant scraps of lymphatic tissue that had undergone hyperplasia The patients were women of 23, 40 and 42, and hematuria was the first appreciable indication of abnormal conditions In Soliero's case the hematuria had kept up for six months, it had returned at intervals during two years in Taddei's case, and during thirteen years in the present case, and there were signs of chronic nephritis in the last two cases Complete recovery followed removal of the kidney involved The positive Wassermann reaction in Rizzuto's case suggests that syphilitic infection may have been the exciting cause that started the lymphoid tissue to proliferating

113 **Serodiagnosis of Echinococcus Disease**—Zapelloni concludes his long study of this subject by personal research and sifting of the literature, with the statement that the response to the deviation of complement test is so constant and so specific that it is the most fortunate application in clinical medicine of Bordet and Gengou's principle of diagnosis by the serum He has applied the test in 60 cases of echinococcus disease before operative treatment, and again later in 54 cases, and obtained negative responses in 167 controls, and has compiled from the literature corresponding figures totaling about 500 in the first group, 200 for the second, and 1,600 controls A negative response was always obtained with nonechinococcus affections, even tapeworm A positive response was obtained in 93 per cent of all echinococcus cases, while eosinophilia was manifest only in 60 per cent of the cases The article has been continued through five numbers

Riforma Medica, Naples

Nov 20 1915 XXXI, No 47 pp 1289 1316

115 Auricular Fibrillation and Absolutely Irregular Pulse (Sulla terapia delle cardiopatie. V Aritmie complesse) G Rummo
116 *Pulsus Alternans Developing under Atropin and Amyl Nitrite. A Fulchiero
117 Pathogenic Connection between Disease of the Blood and Certain Products of Intestinal Putrefaction O Cantelli Commenced in No 46

116 **Pulsus Alternans Developing Under Atropin or Amyl Nitrite**—Fulchiero's patients were men of 28 and 39 The first had had acromegaly for six years, and the general weakness, dyspnea and failing memory compelled him to enter the hospital The pulse was 65 when a test injection of epinephrin was given By the next day the pulse was 48 and the pressure had been reduced from 95 to 90 He was then given a test injection of 0 0015 gm atropin sulphate The pulse rate increased, reaching 102 in half an hour Two hours later a weak systole was evident to every two normal contractions, and then the pulse became of a regular alternating type The second patient was a man of 39 with myocarditis with some arrhythmia, dyspnea and edema As he improved under the usual measures, he was given a dose of 6 drops of amyl nitrite to inhale At once there was slight total headache and dyspnea, and the pulse jumped from 60 to 125 The pulse tracings showed a pronounced alternating type thereafter, not at once, but after the pulse had returned to its previous rate, showing that the vagus was no longer under the influence of the drug

Brazil-Medico, Rio de Janeiro

Nov 13, 1915 XXIX, No 43 pp 337 344

118 *Intravenous Sodium Iodid Treatment of Tropical Bubo (Iodotherapia endovenosa no bubão tropical) A A da Matta
119 *Tuberculosis and Pregnancy (Subsidio ao estudo da tuberculose na puerperalidade) A Farani Commenced in No 40

November 27, No 45 pp 353 360

120 Protozoa in Human Pathology (Algumas molestias produzidas por protozoarios) O Cruz. Commenced in No 44

118 **Intravenous Iodin Treatment of Tropical Bubo**—Da Matta applied the usual measures in vogue in treatment of fourteen patients with tropical bubo, but the tedious course of treatment required, and the lack of benefit in some cases caused him to seek for something better A trial of intravenous injections of sodium iodid gave remarkable results as he describes in detail, in four cases One patient was given three injections of 10, 15 or 20 gm of sodium iodid, and was completely cured in a week of bilateral tropical inguinal bubo with intense pains and fever for two days before the treatment was started Da Matta declares that the sodium iodid has antiseptic and antitoxic action, it is a tonic and

restorative, an energetic sedative, and a therapeutic drain, accelerating the elimination of noxious elements as is shown by the rapid resolution of the acute or chronic inflammation of the glands He ascribes the method to Klemperer, reiterating that it seems to be the true specific medication for tropical bubo

119 **Tuberculosis in the Puerperium**—Farani's analysis of the literature and two new personal cases confirm the assumption that the puerperal state has an aggravating influence on the bacillary process in the majority of cases He is confident that improved technic will soon render it possible for us, from the power of the organism to produce antibodies, opsonins, etc, to determine which cases are coming through successfully and the cases in which the vitality is at too low an ebb for this to occur without help from without Until we have some certain guide like this he advocates action aiming to keep the woman in good condition, regardless of the fetus He would sacrifice the fetus to the mother the more readily, the better the tuberculous mother's condition He would not wait until term, but believes in terminating the pregnancy early The abortion should be induced at the period when laboratory tests show the antibody, opsonin and other defensive reactions most pronounced The woman once freed from the pregnancy which was dragging her down, should then have every means applied to help her to throw off the tuberculosis itself Unless there is some prospect of this, he advises waiting in the interests of the fetus He does not approve of routine sterilization of tuberculous women as the tuberculosis mav be thrown off later A tuberculous woman who has had abortions induced may recover and bear healthy children When the disease is localized in the placenta, hysterectomy may be indicated, but otherwise not

Nederlandsch Tijdschrift voor Geneeskunde, Amsterdam

Nov 20 1915 II No 21 pp 2271 2366

121 *Participation of the Liver in Formation of Urea from Amino Acids (Over de functie der lever bij de vorming van ureum uit amino zuren) B C P Jansen
122 *Is the Stomach Content Much Abnormal with the Bismuth Contrast Meal? (Vormt het gebruik van een contrast maaltijd een abnormallen maaginhoud?) C Bles

121 **Share of the Liver in the Formation of Urea out of Amino-Acids**—Jansen has been testing the mechanism of protein metabolism in cats and dogs especially the share of the liver in the process He experimented with the surviving liver after its vessels had been flushed clean with warm Ringer s solution He describes the various steps of the technic employed with charts of the outcome of the tests His results seem to contradict those of Folin obtained under similar conditions, and they do not harmonize with Fiske and Karsner s findings His research apparently demonstrates that the liver may play a very important part in the forming of urea out of amino acids This is particularly evident when we consider that in different tests, 300 or 500 mg urea were found, which corresponds to a production of from 7 to 8 gm a day

122 **The Contrast Test Meal**—Bles has been experimenting to learn whether the bismuth test meal caused such abnormal conditions in the stomach that conclusions based on them could not apply to other conditions He found that this is not the case the contrast test meal does not form an abnormal content At least, the difference between the content with the contrast test meal and with an ordinary test meal is so slight as to be negligible

Hospitalstidende, Copenhagen

Nov 24 1915 LVIII No 47 pp 1203 1226

123 *Repeated Ligation of Varicose Veins on Leg (Behandling af Varicer paa Underekstremiteterne efter Kuzmik Schedes Metode.) K Secher

December 1 No 48 pp 1227 1250

124 *Importance of Ether in Bacteriologic Diagnosis of Typhoid and Paratyphoid (Undersøgelser over Petroleumsæterens Betydning for Diagnosen af Tyfus og Paratyfusbakterier i Fæces) H C Hall Commenced in No 47
125 The Colorimeter in Exact Determination of Albumin Content. (Den kolorimetriske Æggehvidebestemmelse som exakt analytisk Metode og dens Anvendelighed for Autenrieth Koenigsbergers Kolorimeter) M Claudius See abstract 133 below

December 8 No 49, pp 1251 1274

126 Tests of the Cerebrospinal Fluid in Syphilis (Undersøgelse over Lymphocytose Hyperalbuminose og Wassermann's Reaktion i Cerebrospinalvædsken ved Syphilis) C With To be continued
127 *Hemoptysis in Croupous Pneumonia, Three Cases. G E Permin

123 **Multiple Ligation of Varicose Vein**—This is Secher's second report on the application of the Kuzmik-Schede technic, described in these columns May 22, 1915, p 1803 The aim is to induce thrombosis along the whole varicose stretch, while the multiple ligatures reduce to the minimum the danger of embolism—a danger which is imminent with other methods of obliterating varicose veins The walls of the varicose vein are abnormal and hence they do not contract properly The weight of the column of blood forces the insufficient valves, and edema, ulceration, eczema and weariness follow or persist after other modes of operation The larger the varicose enlargement and the longer its duration, the greater the difficulty in obliterating the vein But by throwing a ligature around the vein at regular intervals, all these disadvantages are obviated and the vein is obliterated regardless of the degree of dilatation He gives an illustration of an extreme case of varicose enlargement of the entire saphenous vein, with ulceration, in a man of 66, that had proved refractory to various courses of hospital and operative treatment A second illustration shows the apparently normal aspect of the limb after multiple ligation of the vein Even in the obese and with much edema, it is possible to palpate the vein and ligate it, and the outcome has been a pronounced success in every instance On the other hand, the technic is simpler, he declares, than with any other method, and it is applicable in any and every case He prefers to ligate with silk rather than catgut, as greater force can be applied to bring the stiff vessel walls together to obliterate the lumen The silk is passed through the skin and around beneath the vein The ends are tied together over the skin or over an interposed roll of gauze

124 **Ether in Bacteriologic Examination of Stools**—Hall's article is based on examination of the stools from 124 persons, including 69 typhoid patients, 39 suspects 4 paratyphoid and 12 paratyphoid B stools He has modified Bierast's technic, and the results apparently testify that his modification is much more reliable and decisive It shows up tvphoid and paratyphoid bacilli without fail in corresponding cases, while it is never positive in paradysentery and cholera cases The ether checks the growth of colon bacilli, and does this proportional to the boiling point of the ether, the effect being most marked the lower the boiling point By checking the growth of colon bacilli, typhoid and paratyphoid bacilli are given a chance to proliferate at will According to his modified technic a lump of feces about as large as a nut is stirred into 7 or 8 c c bouillon in a reagent glass The suspension of feces is then decanted into a centrifuge glass and the glass is filled up with about 4 or 5 c c ether The glass is then centrifuged (whirling about 150 times a minute) for half an hour, and then the glass is set aside for one or two hours at room temperature A few drops of the mixture from the bottom of the glass are then transferred to culture medium plates After from sixteen to twenty hours in the thermostat the typhoid or paratyphoid bacilli are usually found in pure cultures, the ether having prevented colon bacilli from developing and the crystal violet in the Conradi-Drigalski plate having prevented any growth of cocci Bierast s original technic took a longer time

127 **Hemoptysis in Pneumonia.**—Permin reports two cases in which the patient presented hemoptysis and was brought to the tuberculosis ward but the trouble proved to be pneumonia with a crisis the fourth or six day and subsidence of all pulmonary symptoms The patients were men of 21 and 29, and one had had similar symptoms at an attack of pneumonia four years before In a third case actual pulmonary tuberculosis developed with an onset mistaken for pneumonia at first The patient was a young woman apparently healthy until she suddenly developed high fever, slight cough and dyspnea and herpes labialis The findings in the lungs were like those with incipient pneumonia but there was no sputum The diazo first suggested the tuberculous nature of the trouble, confirmed by roentgenography

Norsk Magazin for Lægevidenskaben, Christiania

December, 1915 LXXVI No 12, pp 1475 1672

128 *Splenomegaly in Children (Splenomegalier i barnealderen) A Brinchmann
129 *Induced Therapeutic Pneumothorax (Om pneumothoraxbehandling) E Grundt
130 Case of Stenosis of Lower Trachea N Barth
131 *Foreign Bodies in the Appendix (Fremmedlegemer i appendix Haggel appendicit, oxyurisappendicit) N B Grøndahl
132 *Overpressure Apparatus for General Anesthesia by Intratracheal Insufflation (Et overtryk narkoseapparat bygget paa Meltzer's og Auer's princip for intratracheal insufflation) R Ingebrigtsen

128 **Splenomegaly in Children**—Brinchmann comments on the peculiar susceptibility of the spleen in children, not only to become enlarged but also to undergo histologic changes It is liable to enlarge with acute and chronic infectious diseases, with certain affections of the liver, and with twelve different diseases of the blood-producing apparatus In a case described, a boy of 8 was brought to the hospital for symptoms suggesting an inoperable tumor in the mediastinum There was no sign of hemorrhages in the skin, and the mucosae were apparently normal, but the spleen was much enlarged and the blood picture was that of lymphatic leukemia After periods of improvement and aggravation, he died two and a half months after the first symptoms Necropsy revealed general infiltration of lymphocytes around all the organs examined, the leukemic gland was not always swollen even when qualitatively typically abnormal The diffuse infiltration of cells and perivascular lymphomas are never encountered with Kundrat's lymphosarcomatosis which had been the first diagnosis at necropsy Another case reported, in a boy of 4 or 5, was even more typical

Acute lymphatic leukemia is not such a rare disease in children Sluka in 1907 had collected 55 cases in children under 14 Escherich found evidences of it in 2 among 150 cadavers Seiffert and Lomme have each reported an inherited case, but a leukemic mother may bear a nonleukemic child The various other affections involving the blood-producing apparatus are discussed in turn, citing from the literature, including Yates and Bunting's article in The Journal, June 12, 1915, p 1953 In a recent case of what seemed to be Banti's disease in a boy of 8, there was pronounced anemia and lymphopeny, but no myelocytes were found and Banti himself has never found normoblasts On the whole, Brinchmann recapitulates, the pathology of the spleen does not differ much in children and in adults only that the pathologic conditions are more acute in children Pernicious anemia is more a disease of adults, and no case of myelogenous leukemia is known in young children On the other hand, pseudoleukemic anemia of the von Jaksch-Hayem type has never been encountered in an adult He gives the details of five cases, including two with an atypical course The blood shows the embryonal type both for the red and the white corpuscles

He thinks there is much to sustain the assumption that there is no special virus which induces each of these diseases It is more probable that there is but one virus, and that it affects the organism differently in different cases, according to the conditions it encounters at the time Ellermann found that the virus of fowl leukemia induced leukemia and other typical blood diseases when animals were inoculated with it In some instances the leukemia was of the lymphatic, in others of the myelogenous type The reaction to experimental blood intoxication (pyrogallol, Reckzeh) differs as the animals are young or old, and there is much to indicate that the spleen plays an important role in the development of disease of the blood

129 **Induced Pneumothorax**—Grundt's experiences were so favorable in his twenty-eight cases that he regards it as a duty to offer this method of treatment to every patient with advanced pulmonary tuberculosis, after fully explaining its dangers and disadvantages The outcome must be regarded as excellent in 8 or 9 of the 28 cases In 3, adhesions prevented its successful application, in 4 there was transient improvement but the disease progressed, as also in 5 other cases—the mortality to date being thus 13 in 28 cases

131 **Foreign Bodies in the Appendix**—Grøndahl states that in 10 of his 400 operations on the appendix in the last three years, a foreign body was found, in 6 there was a living oxyuris, these patients were girls between 6 and 17 with the exception of two women of 32 and 24 In the other cases the foreign body was a hair, a scrap of the head of an oat, a sliver of wood, a grapestone, a blackberry stone or small shot In all these cases there had been chronic disturbance from the appendix One girl of 15 had had vague pains in the region for seven months, but no tenderness A hair was found in the tip after the appendix had been removed There has been no further disturbance in any instance In only 2 of the 5 oxyuris cases was there any evidence that the helminths could possibly have been responsible for the inflammation Fruit stones were found thus only in 2 of the 400 cases The experiences related show that the appendicitis in these foreign body cases is inclined to be unusually mild unless the foreign body is a sharp scrap of metal or enamel, these are liable to be dangerous at any point in the bowels

132 **Intratracheal Insufflation for General Anesthesia Under Overpressure**—Ingebrigtsen has devised a home-made apparatus for this purpose which seems to be working perfectly The principle is much the same as in Elsberg's or Fischer's apparatus With it he was able to open the pleura in his experimental research and resect the esophagus without the lung's collapsing

Ugeskrift for Læger, Copenhagen

No 25, 1915, LXXVII, No 47, pp 1843 1876

133 *Claudius Quantitative Determination of Albumin (Om Claudius' kvantitative Aeggehvidebestemmelse) A Norgaard

December 2 No 48, pp 1877 1914

134 *Importance of Milk in Diet with Chronic Intestinal Disease (Nogle Bemærkninger om Diæten ved kroniske Tarmsygdomme) A Borgbjærg
135 Trichocephalus Dispar Found in 43 Per Cent of 160 Children in Denmark (Undersøgelser over Trichocephalus dispar hos Børn med Sammenligning af Telemann's og Schroeder Jørgensen's Metode) K M Hansen

133 **Claudius' Quantitative Colorimeter Test for Albumin**—Norgaard has been giving this method a thorough trial, and here tabulates the findings in 100 specimens of urine and in some other organic fluids The adsorption increases with cooling and declines with heating Comparative tests showed that with an albumin content below 1 per thousand there may be a difference up to 10 per cent of the findings on analysis by weight With an albumin content above 1 per thousand, the difference may rise to 20 or 30 per cent There is thus a possible error averaging up to 25 per cent (Claudius describes the exact technic in the article listed as No 125 above)

134 **Diet with Chronic Bowel Trouble**—Borgbjærg emphasizes the importance of the diet as a factor in the successful management of chronic intestinal disturbance Schmidt and Strasburger have demonstrated the nature of dyspepsia from intestinal fermentation and the means to bring it under control Borgbjærg here discusses colitis, saying that the primary cause is often to be found outside of the colon Cure of this is followed by the healing of the bowel trouble The same applies only in higher degree to extreme constipation It is often merely one symptom from a gastric ulcer, appendicitis or gallstone trouble, and subsides with relief from the primary trouble, especially when proper dietetic treatment is instituted Even when it is primary, there are many factors that have to be considered He advocates extensive use of milk in the diet with chronic bowel trouble, especially colitis cautiously increasing the doses and examining whether it tends to induce diarrhea or constipation or neither in the individual case The idea that milk is poison for the bowels, he says, is a mistake It is a good and nourishing food, and inability to assimilate it properly may be due to the absence of the normal bowel content of lactase Weinland noticed that in mammal animals, lactase was produced only so long as milk sugar was obtainable in the diet, that is, only during the suckling period The physician too often depends merely on the patient's statements as to constipation, etc, and orders a diet rich in waste which is certain to aggravate abnormal conditions already installed

The Journal of the American Medical Association

Published Under the Auspices of the Board of Trustees

VOL LXVI, No 5 CHICAGO, ILLINOIS JANUARY 29, 1916

THE USES OF MEDICAL BIBLIOGRAPHY AND MEDICAL HISTORY IN THE MEDICAL CURRICULUM *

FIELDING H GARRISON, MD

WASHINGTON, D C

If you owe a small debt for a purchase delivered by one of our modern commercial establishments, such as a drug store, a book store or a music store, which knows you well enough to trust you, you will often, on paying your bill, be handed a small card or a bundle of memoranda, from a card index of accounts, certifying that your bill is discharged and that the account is a closed incident so far as the establishment is concerned In the light of this very common commercial procedure, which keeps track of the smallest details in order to compass large results, it is hardly necessary to emphasize the importance and usefulness of bibliography, whether for the preservation and easy accessibility of records of all kinds, the location and citation of things difficult to come at, or the conduct of a scientific investigation

Bibliography, as its derivation implies, is only an enlarged system of bookeeping Shops and police courts, recruiting stations and battleships, laboratories and libraries all now employ the card system more or less as the handiest, most sensible, economical and dependable method of keeping records A French physician, who was studying hospital systems in this country, summed up his experience to me by saying "The American hospital revolves around a telephone and a card index" The English mathematician, Arthur Cayley, once defined bookkeeping as a perfect science, because its theory and practice are in absolute accord, so that the detection of sources of error becomes only a matter of expert skill But bibliography, as Helmholtz said, "hardly deserves the name of science, because it neither enables us to see the complete connection nor to predict the result under conditions yet untried" Yet our efficiency experts have shown us that almost any business can be run in a scientific manner when each of its expert agents becomes himself a sort of specialized card index of his particular department We are disagreeably reminded of this fact in connection with the present European war, for on this simple idea is based the whole Prussian system of "efficiency", the idea that, in war or business, every slightest detail is important, the duties of the milkman, baker, printer, or mechanic, as well as those of the soldier and strategist It was this system which caused the Austrian general Benedek to exclaim, at the outbreak of the Seven Weeks' War, in 1866, 'The Prussians are expert people, and we have learned nothing!" (*Die Preussen sind studirte Leute, und wir haben nichts gelernt!*) Any one who has made haphazard notes on any subject in a commonplace book, and has had occasion to compare his attempts to bring order out of this chaos with the ease with which he can arrange and rearrange, or even reject, information recorded on cards, will never think twice as to his choice in any future venture of this kind It is a game of solitaire which has the advantage of stimulating, instead of depressing the mind, and will always bring in substantial winnings to those who use it with intelligence and discretion

"There is," said Leonardo da Vinci, "no result in Nature without a cause, understand the cause, and you will have no need of the experiment" Long before Kant, that same great universal genius made the following acute observation "There is no certainty where one can apply neither any of the mathematical sciences nor any of those which are based on the mathematical sciences" In the conduct of a scientific investigation, it is hardly necessary to state that three methods are commonly pursued by modern workers, namely, the inductive plan of proceeding by experimental "trial and error," reasoning *a posteriori* from particular cases to general propositions, from isolated heterogeneous facts to the natural laws behind these facts from the consequences of a truth to the truth itself, the deductive method, in which, having established some fundamental proposition by a rigorous proof, we reason *a priori* from the established law to the consequences which flow from it, from general propositions to particular cases, thus predicting the possible from the certain or the probable, and the historic or bibliographic method, in which, before attempting either of these things, we take account of stock, as it were, and find out what actually is known before presuming upon assumptions, assertions or predictions of any kind, and especially to avoid rushing into public utterance or print with statements which are gratuitous or otherwise "ancient history" This is the principal function of the bibliographic and historical method, which alone can furnish the guiding thread through the great mazes of ancient and modern literature, whether it be science and medicine, the fine arts and the drama, the law and municipal government, the whims and oddities of mankind, the psychology of the lower animals and of different human races, or the spiritual and supernatural phases of existence

---

* Read at the opening exercises of the Medical College of Syracuse University Sept 21 1915

Owing to lack of space this article is abbreviated in THE JOURNAL. The complete article appears in the author's reprints

THE BIBLIOGRAPHIC METHOD

To confine ourselves to medicine, it is only necessary to mention Harvey's immortal essay on the circulation of the blood, or Beaumont's work on the gastric juice, as examples of a scientific investigation in which the inductive method was preceded by the bibliographic. Both Harvey and Beaumont prefaced their work by a careful and thoroughgoing review of all that their predecessors had done before taking hold of the problems immediately before them. The appendixes to Bretonneau's book on diphtheria, which placed this disease on its modern footing at the beginning of the nineteenth century, show that this eminent physician had carefully pondered all that the physicians of the past had to say before publishing any express views of his own, and, much to the discontent of his pupils, he held back his manuscript for six years before printing it, even as Harvey had lectured on the circulation at least twelve years before he published his essay. The consequence is that these works are true medical classics in the best sense of the term. What the authors have to say is said so well and so conclusively that it would be difficult to improve on it from the point of view of the time in which they wrote.

In the words of Augustus De Morgan:

> All the men who are now called discoverers, in every matter ruled by thought, have been men versed in the minds of their predecessors, and learned in what had been before them. There is not one exception. I do not say that every man has made direct acquaintance with the whole of his mental ancestry, many have, as I say, only known their grandfathers by the reports of their fathers. But even on this point, it is remarkable how many of the greatest names in all departments of knowledge have been real antiquaries in their several subjects.[1]

In our modern medical literature, particularly that of Germany, it has become so much the fashion to preface a monograph or *Arbeit* with a historical "introduction" that the latter sometimes seems commonplace or perfunctory. But without rendering just such an honest account to himself of what is due his predecessors, it would be impossible for any modern physician to be sure that he is saying anything particularly new or true, and there are some medical writers, as Virchow has shown, who have actually falsified their bibliographies by inserting bogus, erroneous or misleading footnote references to books and papers which they have never seen.

Aside from original investigations, much of modern medical literature, as you know, is made up of abstracts or rearrangements of the work of other men. Some of these essays have been well described as little more than extended bibliographies, others, while ephemeral, have a distinct value as mediums for fertilizing the soil of current-day medicine, bringing many complex, abstruse or recondite things down to the level of comprehension of busy overworked men who run but may not read. The only essential is that such essays should be accurate, comprehensible or attractive in style, and that their writers should honestly state the sources of their information.

In the gigantic task of cataloguing and arranging the literature for this and other purposes, medicine has been mainly indebted to the self-sacrificing labors of four men — Haller, who catalogued medical, surgical, anatomic and botanic literature up to the end of the eighteenth century, Callisen, who catalogued the books and the contents of medical periodicals from Haller's time up to the end of the first third of the nineteenth century, and Billings and Fletcher who, in the Index Catalogue, listed the whole medical literature of the world from the earliest times down to the present, by authors and subjects, and arranged that the current medical literature of the world should be accessible to the medical profession in the monthly *Index Medicus*.

It is not likely that the undergraduate student will have occasion to use the larger medical bibliographies to any extent, and then only under the direction of his teachers. Is it then necessary or desirable that he should employ the methods of bibliography in his early work? I venture to say that this could be done with some advantage, according to the industry or enthusiasm of the individual pupil. He begins his studies with anatomy and physiology. Whether these subjects be taught by lectures and class room recitations, supplemented by dissecting and laboratory work, or exclusively in the dissecting room and laboratory, he will, in any case, have to arrange and coordinate the knowledge he acquires for examination purposes or for future use in his active life. He studies, for instance, the occipital bone by means of a detached specimen and the description in Gray's "Anatomy," the ramifications of the external iliac artery or the outflow of the cerebral nerves in the cadaver, or the electrophysiology of muscle and nerve in a laboratory preparation. Suppose, now, that he attempts to write down an account of what he has seen and learned, not by the book, but from his own inner consciousness. Obviously, this is the most effective way in which he can render to himself an account of the exact state of his knowledge. For, as Lord Bacon said, "Reading maketh a full man, speaking a ready man, and writing an exact man." By oral quizzing bouts with his fellows, the student may acquire facility of expression, freedom from embarrassment, and even those evasive or prevaricating tactics which sometimes embarrass the professor, but if he is to be quite honest with himself, he will wish to keep a private account of his own knowledge for his own satisfaction. If he acquires an ordinary paper box of envelope size, and an outfit of blank cards which loosely fit into this box, or of stiff paper cut up into the appropriate size by some paper warehouse, he will have all that is necessary for accomplishing this end in any subject. If, now, he writes down on one of these cards all that he wishes to know or hopes to retain about the occipital bone, electrotonus, etc., he will have a series of nuclei for future study or work, which he can arrange under each subject in alphabetical order. At times, he may wish to rearrange or enlarge his knowledge of any one of these individual subjects. In this case, it will only be necessary to rewrite a particular card and throw out the original, which cannot be done in an ordinary student's notebook without defacing the page or making a very complex mess of it.

If one had to study medicine again, many older men would have followed this plan as a strictly labor-saving device, and while, in after life, no one would care to lumber up his domicile with piles of boxes of this kind, there are still many important facts, many odds and ends of knowledge, many scraps of information, which could be kept in this way for ready reference. Indeed, most scientific physicians working in hospitals and laboratories today do keep extensive records of this kind on card indexes of standard size, contained in special cabinet cases made for this purpose by our library bureaus

---

[1] De Morgan, Augustus: A Budget of Paradoxes, Ed. 2, Chicago, 1915, p. 5.

MEDICAL HISTORY

As one learns to use one's mind through the Latin grammar and mathematical problems, as one learns to play a musical instrument by practicing scales and chords, so the medical student who works in this way will have acquired special technic for keeping his office and hospital records when he becomes a practitioner or teacher If he wishes to keep his patients or keep in touch with them, he must keep track of them, and this is usually done, at least in important cases, by means of systematic alphabetical records The time may come when he wishes to use such cases and records in writing a medical paper or in preparing a discussion of a paper in a medical society, and this brings up the question whether it is worth while to make these students' records historical, in the sense of adding to each record, as time or inclination permits, such historical data about the separate items as may seem of interest to the individual student I venture to say that this would be the readiest way in which the undergraduate student can get in touch with medical history The idea of teaching medical history in the medical curriculum by means of set lectures to the students has been tried and tested often enough and, in most cases, found wanting, mainly because the subject is so vast and complex that any attempt to present it in concise and precise form, in a few lectures, is almost inevitably dry and disappointing, unless backed up by unusual eloquence or a fascinating personality Just on account of this dryness, students have been found to avoid such lectures, as pupils at musical conservatories are said to avoid the classes in harmony and counterpoint The medical student, in particular, is so crowded with other subjects in his courses that the additional lectures on medical history might very well prove the last straw to break the camel's back

One very conclusive objection to lecturing neophytes on medical history is that such lectures swarm with those unfamiliar names which as Coleridge said, "are nonconductors and stop all interest"

The very fact that most physicians, however experienced or learned, have usually taken up this subject late in life goes to show that the student would gain nothing whatever by the attempt to throw it at his head in one indigestible lump It is usually studied in detail and to best advantage, not by solemnly beginning with the Egyptians, the Hebrews, the Greeks and the dreary narrative down to the beginnings of modern scientific medicine in the period of Vesalius and Harvey, but by attacking the subject anywhere, in direct connection with one's actual studies, and sometimes by studying it backward

At the Johns Hopkins University, medical history is taught directly in the laboratory and the clinic, by deliberately interweaving it point for point, or contrapuntally, as the musical theorists say, with subjects of special interest, no matter how accidentally or incidentally these may come up If the subject is Addison's disease, or Skoda's resonance or the significance of Gaskell's experiments on the heart in heart disease, the student is expected to interest himself in the lives and personalities of these great men, and to know something about them as part of his medical culture In this manner, he gets in the way of reading into medical history and of expanding his studies in this field through a naturally acquired interest This is the method which was introduced by Dr Osler and Dr Welch, and it is also the method which has been introduced at Harvard through the influence of Dr Cushing Osler is said to have required his advanced students to read and report on some of the foreign medical journals and in his evenings at home with his "boys," he brought them in touch with the cultural phases, the ethics and the etiquette of their future profession in a very delightful and informal way Supplementary to all this is the Johns Hopkins Hospital Historical Club, at which set papers, sometimes by outside physicians, sometimes by the professors or students, are read, for the benefit of the classes and afterward discussed by Professor Welch and others In this method, too, the centric idea is to attack the subject from any angle that may come up, and not to exploit it by the systematic, formal and chronological plan which has proved so dull and tiresome

Every medical student should provide himself, if possible, with a comprehensive medical dictionary, of the flexibly bound kind of which there are so many good examples nowadays, and familiarize himself with the names of the great physicians as they come up in his work, especially in connection with the so-called eponyms or diseases, operations, procedures, etc, which are named after these physicians The advantage of the eponym for the medical student lies not only in what it denotes, the particular man it stands for, but also in what it connotes, that is, the secondary idea or implication which it conveys to the mind, and this association of ideas may be extended to almost any term of importance which may be encountered during the student's medical courses Thus, the name McDowell denotes a pioneer physician of Kentucky, but it connotes the first successful ovariotomy, salvarsan denotes a synthetic drug, but it connotes its discoverer Ehrlich and the disease in which it is used, vesicovaginal fistula denotes a certain distressing condition in women, but it should connote the name of Marion Sims, who founded operative gynecology by first treating this condition successfully, the Argyll Robertson pupil denotes a certain condition of the eye, but connotes locomotor ataxia, general paralysis and a certain Scotch ophthalmologist, the ophthalmoscope ought to suggest the name of Helmholtz or vice versa Along such lines as these, the student might, if he chooses, begin to add little biographical or historical notes about these men to his memorandum cards, as he goes along, and he may find these historical clues not cumbersome baggage but actual aids to memory

It is possible that the plan suggested here may sometimes prove too large a contract for the student during his periods of overwork, but if he does never so little, on the principle of *nulla dies sine linea* — a few lines every day — it will not be wasted labor The illustrations given are very rudimentary indeed, and are based on the assumption that the student really wishes to know something of the cultural history of his profession from the start Are there any special advantages in acquiring such knowledge? First and foremost, there is the all-important point that what we learn in youth is apt to stick by us more closely, to be a more essential part of our mental furniture, than anything we attempt to acquire in later years The names we have heard in our medical courses, the jokes and anecdotes the professors told us, some striking clinical exposition, some impressive scene in the surgical amphitheater, remain with us forever and many things, learned in these earlier years, which we think we have forgotten, come to the surface again in a surprising way when we have any occasion to use them "The knowledge which a man can use," said the historian Froude, "is the only real knowledge, the only knowledge which has life and growth in it, converts itself to practical power The rest hangs like dust about the brain or dries like rain-drops off the stones "

Some of you, in future years, will take part in the papers and discussions of medical societies and medical congresses at which you will meet men to whom this special cultural knowledge of your profession is a matter of course Most well-trained and well-equipped physicians of today, in fact, have this knowledge You will not wish to meet them at a disadvantage to yourself But, over and above this, you will not be doing justice to yourself, if you do not wish to know the broader aspects of medicine for your own satisfaction We dislike to be burdened with new studies, but this is an essential part of modern medical training in the German and Swiss universities, at Oxford and Edinburgh, at Harvard and Johns Hopkins, at Philadelphia and St Louis At most of these universities, the supplementary medical history club has delightful social features, because it brings the students into closer human relations with their teachers, relations of which we of twenty-odd years ago never had the advantage But you must do the greater part of the work yourself

As you study the different diseases try to learn something of the histories of these diseases in that great storehouse of knowledge, Hirsch's "Geographical Pathology," which has been admirably translated by Dr Charles Creighton for the Sydenham Society As you study the various drugs, learn their history from Fluckiger's "Pharmacographia" and from Trousseau's great treatise on therapeutics Learn the history of physiology from Schafer's monumental textbook Learn the history of the surgical operations from Gurlt, Mott's Velpeau, and Billings' monograph in Dennis' "System of Surgery " Learn the history of gynecology from von Winckel, Howard Kelly, and Allbutt's System of Gynecology Learn the history of obstetrics from Engelmann and Whitridge Williams The monumental histories of Gurlt (surgery), Fassbender (obstetrics), Hirschberg (ophthalmology) and Politzer (otology) are so supremely well done that they will hardly be improved on by any later hands Meyer's "Geschichte der Botanik" is of enormous value, because it deals with the subject mainly in its relation to medicine Organize a small library of medical history for your college, to contain at least some of these books, which will be of more practical use to you, at this stage of your career, than the long set histories of medicine, such as those of Haeser, Baas and Neuburger

Should you wish to read medical history systematically, you will find Neuburger's, in the Oxford translation, the best of the larger and more modern treatises Of the older systems, that of Sprengel is unrivaled for its close rendering of the facts of ancient medicine and the unimpeachable accuracy of its footnotes Haeser is solid, dull and not so reliable, but the third volume, on epidemic diseases, is invaluable Pagel's "Introduction" has been purged of much inaccuracy and brought up to modern standards by Sudhoff (1915) Withington and Leon Meunier are the best of the shorter histories published in England and France, respectively The brief and little known sketches by William Farr (1839) and Edwin Klebs (1868) are highly original and suggestive To keep track of medical events in order of time, the chronologies of Ludwig Choulant (1822), Casimir Broussais (1829), William Farr (1836-1838), M S Kruger (1840), Chinchilla (1844) and Julius Pagel (1908), are useful, as also the remarkably detailed chronologies of medicine in the histories of William Black (1782), Kurt Sprengel (1792-1803) and E Isensee (1840-45) Of all these, those of Choulant, Broussais, Farr and Pagel are the most reliable For medical biography, you may use Éloy (1778), Jourdain (1820-1825), Bayle and Thillaye (1855), Hirsch (1884-1888) and Pagel (1901), and for American names, Thacher (1828), Gross (1861), Atkinson (1878), Stone (1894), Watson (1896) and Kelly (1912), but you will find the best individual biographic references under the separate author entries in the Index Catalogue

FINDING REFERENCES

Let us now take one or two concrete examples of the value of these tools

You wish to find the exact bibliographic reference to some minute detail of ancient medicine You will usually find it in the footnotes to Sprengel's "History" For example, the textual sources of the different papal ordinances governing medicine in the middle ages will be found in the footnotes at the bottom of pp 484-485 (1823, vol 2), and nowhere else Sprengel is reliable for data of this kind up to the eighteenth century

For nineteenth century books and pamphlets, use the author-titles (roman type) and for periodical literature, the subject-titles (in nonpareil type) in the Index Catalogue (1880-1915), or the annual indexes of the *Index Medicus* (1879-1915), supplemented by the superb and infallible "Catalogue of Scientific Papers," published by the Royal Society of London (1867-1915), which, when completed, will give the whole of the strictly scientific periodical literature of the nineteenth century (1800-1900), indexed by authors in alphabetical order

To find references in the later periods, use either Callisen or the Index Catalogue

THE LITERARY SIDE OF MEDICINE

Learn printers' marks Acquire the proofreader's eye for errors and blunders, and study the effective exploitation of type[3] Learn to criticize silently the syntax and style of every page you read Remember that every modern writer who is a stylist probably became such by picking to pieces the things he perused

Medical papers are written and published by the thousands and most of them speedily forgotten The time may come when you have a paper for publication An eminent medical editor once gave me his criteria for selecting or rejecting papers, not of the highest scientific order, but of mean average merit, as they were sent to his journal for publication "I read a few pages over," he said, "and as I do so, I keep in mind two standards Does the article rivet my attention or does the mind begin to wander away from it unconsciously? In the latter case, I invariably reject the article" Before sending your maiden effort to a medical journal, read it over critically yourself, or have some acute person read it over, to see if "the mind begins to wander" Some of you may become medical editors in time, and if so, the importance of this criterion will sink into your mind, for a writer on medicine who is inaccurate in matter is lacking in respect for his subject, if he is careless in style and manner he is lacking in respect for his readers and consequently for himself, like a man on the sidewalk who makes himself conspicuous by slovenly attire.

---

[3] Perhaps the most remarkable example of the effective use of diffierent fonts of type for bibliographic purposes is to be found in Isak Collijn's catalogues of the incunabula in the University Library at Upsala (1907) and the Royal Library at Stockholm (1914), the style of which has already been copied by the Prussian commission in the specimen fasciculi of its forthcoming 'Gesamtkatalog' of incunabula (Halle, 1914)

The need for medical men who will specialize in medical bibliography and history, and devote themselves exclusively to medical journalism and medical literature, is becoming more apparent every day. Advanced teachers, like Professor Cushing at Harvard, are already beginning to encourage some of their pupils to take up the literary side of medicine, as a set-off to an ordinary success as internists or surgeons exclusively.

THE CULTURAL HISTORY OF MEDICINE

Should you be able to organize a medical history club, which might meet, as at Harvard or Johns Hopkins, in one of the university rooms, or as at New York and Washington, in private residences, you will then be actually studying the subject from two different angles, the biographic and cultural in the club, and the technical in your own private work, and the little historical library you get together may prove the nucleus of a larger and more valuable medical library for the students of the future.

The variety of subjects which might be discussed in a medical history club is almost inexhaustible, for medicine touches human activity at almost every point. There have been medical astronomers, medical mathematicians, medical botanists and zoologists, medical geologists, medical novelists and poets, medical musicians, medical lexicographers, medical statesmen and political adventurers, and, in the past, clerical physicians or medical clergymen. In the Renaissance period, many physicians were astrologers and makers of almanacs. Some of the first school arithmetics ever printed were made by medical men.[4] Some phases of medical knowledge, such as the physiology of respiration or the physics of vision, were worked out almost entirely by mathematicians, physicists and chemists. Much of the earlier materia medica was made by medical botanists, many therapeutic devices of practical moment, such as the use of cinchona in malarial fever, inoculation and vaccination against smallpox, catheterization of the eustachian tube, exhibition of digitalis in cardiac dropsy, and the use of lime-juice in scurvy, were introduced in the first instance by laymen or even through the intuitions of semicivilized people. The greatest figure in modern medicine, Pasteur, was not a doctor but a chemist. Florian Heller, Hoppe-Seyler, Salkowski, Kossel, Ehrlich, Emil Fischer and Abderhalden worked out results of greatest importance to medicine in chemical laboratories.

In ancient times, the physician was a priest or the priest a physician; in the middle ages, when not a cleric, he had the status of a menial and sat below the salt; in the eighteenth century, he wore the "austere scarlet" of the clergy, or the velvet and brocade of the aristocracy, and mingled with the best; in the modern period, the age of money and money worship, he became something of a business man. Among the Greeks, the surgeon was a warrior chieftain; in the middle ages, he was a barber or bath keeper; in the seventeenth century, he was sometimes a headsman or executioner; in eighteenth century Germany, the army surgeon was called *Feldscheerer*, because he had to shave the officers of the line; in our own time, the surgeon stands at the topmost round of the medical profession and is sometimes an experimental physiologist. In the Renaissance period, the anatomist was a free thinker; in the seventeenth century, he was an experimental physiologist; in the eighteenth century, he was usually a surgeon and an illustrator of books; in the nineteenth century he became a microscopist and morphologist. The ancient Egyptians had a doctor for every disease or a disease for every doctor. Among the Babylonians, the patient was brought into the market place and any passerby could have some say as to diagnosis and treatment, if he chose. As Montaigne said, "The whole people was the physician." The same condition obtained after the French Revolution, when all the medical schools and medical societies of France were abolished by vote (1792), and any mountebank or ignoramus could qualify for practice on application.[6] The spirit of the mob has always been disastrous to medicine. Asclepiades, a Greek physician of the second century, B. C., introduced the idea that there are really no diseases but only constricted and relaxed, tonic and atonic, sthenic and asthenic states of the body, and this amazing theory was revived at least four times through the ages by Hoffmann, Brown, Broussais and Rasori, the latter two in the early part of the nineteenth century. Bloodletting, even to the point of killing the patient by exhaustion, was the standard remedy for one of these conditions, and was a disgrace to therapeutics for three centuries. Now we know, from the copious drafts of water the patients required, that the rationale of this procedure, when temperately employed, was simply to wash the blood, to relieve it of the "peccant humors" or toxins of disease. Abel surmises that the error of extensive and intensive bloodletting lay, not in depriving the patient of his blood serum, which could be supplied by the ingestion of water, but in relieving him of most of his red blood corpuscles, which cannot be supplied. One of the great aims of modern historical medicine is to get at the underlying folk intuition, in all these things. We trace the origin of internal medicine in the medicine man's solemn powwowings and incantations against the demons of disease; of diagnosis and pathology in the augur's inspection of the entrails at sacrifice, or the origin of study of the cholemic diathesis in the Babylonian terra-cotta models of the liver and the Galenic and Arabian interest in black and yellow bile. We trace the origins of operative surgery in the thorns, sharp roots and accidentally sharpened flints of the savage; obstetrics in the natural postures which, as Engelmann has shown, all savage and primitive women instinctively assume in labor.

These few trite examples may perhaps serve to indicate the interest which attaches to the cultural history of medicine, and they will at once suggest to your mind that it is not necessary to pursue the subject in the usual dryasdust way, by rule and line, piling up facts, dates and unfamiliar or uninteresting names in chronological order. This method, the bibliographic, is of great use and value in libraries and in research work, but the history of medicine itself is coextensive with the history of the human race, and only a part of the general history of human culture. Bibliographic methods will prove of immense value in keeping your private records, but, in the medical history club or possibly in some symposium at the home of your professor, you may, as Emerson says, "Take hold anywhere"

---

[4] For an account of these see Smith, D. E.: Rara Arithmetica, Boston, 1908, passim.

[6] Wickersheimer, E.: Un examen de medecine en l'an xii, Paris med., 1912-1913, x, suppl., 749; translation, The Journal A. M. A., Nov. 29, 1913, p. 2001.

The gold-headed cane, St Anthony's fire, the red and white stripes on the barber's pole, the duels of physicians, the blood suckers who attended duelists in the eighteenth century in order to suck their wounds, the wound drinks of the middle ages, the purgative inks of the Arabians, the anodyne necklaces, quassia and antimony cups of the past as compared with the medicated milks, iodated foods and diuretic wines of the moderns, cupping and leeching, the seton and the moxa, the sympathetic powder for healing wounds at a distance, the use of the bare foot as a thermometer in the middle ages, the introduction of Dover's powder by a buccaneer, the statues erected to the memory of great physicians and the streets named after them, the quacks of the eighteenth century, the medical graduation ceremony, the use of botanical gardens to teach materia medica, hex-doctoring in Pennsylvania, the medical superstitions and folk-ways of different races, any one of these subjects, taken at random as a starting point and closely studied, will throw you into the full current of medical history It is worth while to remember, in this connection, that some of the most valuable records of historical medicine which we have are often contained in the actual scientific writings of great physicians and surgeons Hippocrates and Celsus, Sydenham and Wiseman, Harvey and Sanctorius, Haller and Morgagni, Heberden and Lettsom, Bretonneau and Trousseau, Malgaigne, Nicaise and Gurlet, Virchow and Edwin Klebs, Osler, Welch and Jacobi, Charcot and Weir Mitchell, are saturated with medical history, if we understand by the term something which is alive and living and not a mere dead record As an example, a paragraph from the obituary of the late Professor Minot by Professor Porter of Harvard illustrates the ephemeral status of biologic hypotheses

> The history of thought is strewn with broken dreams They rise like the mirage The weary traveler toiling through arid facts, as numerous and as unrelated as the sands of the Sahara, sees afar off the shining lakes of Theory There, on the horizon, is that which shall fit the desert to be the abode of men The traveler presses on The mirage dissolves, and from afar the Sphinx, inscrutable looks down on the immemorial sand The biologist may dress himself tastefully in the plumage of the physiologist and the anatomist, but this will not create him a new species[7]

There is more medical history in this paragraph than in hundreds of dull pages which give us only a detailed account of all these theories A philosophical generalization of widest sweep is made in a way to set the mind in motion and start us thinking for ourselves, and that is how medical history has usually been written by the master physicians "The knowledge of past time and of the position of the earth," said Leonardo da Vinci, "is the adornment and food of human minds" To know the cultural history of a great profession, his own, is a worthy ambition for any medical man The young student who begins early may live to realize the sentiment of Thoreau

> We should oftener look over the tafferel of our craft, like curious passengers, and not make the voyage like stupid sailors picking oakum How worn and dusty, then, must be the highways of the world, how deep the ruts of tradition and conformity I did not wish to take a cabin passage, but rather to go before the mast and on the deck of the world, for there I could best see the moonlight amid the mountains I do not wish to go below now

---

[7] Porter Boston Med and Surg Jour, 1915, clxxii 468

THE CARBOHYDRATE FACTOR IN THE CAUSATION AND TREATMENT OF HYPERACIDITY AND ULCER

WILLARD J STONE, MD

TOLEDO, OHIO

In connection with the causation and treatment of gastric hyperacidity and ulcer, I wish briefly to mention certain observations relative to the dietetic and medical management founded on the following

1 The great increase per capita of sugar during the past fifty years

2 The possible relationship existing between this increase of sugar consumption and the apparent increased incidence of gastric and duodenal ulcer

3 The influence of restricted carbohydrate diet in the treatment of uncomplicated hyperacidity and on ulcer This excludes those in whom some remote pathologic condition may exert reflex influence on the gastric secretion, such as syphilitic ulcer, gallstones, chronic appendicitis, uterine malposition or new growth, pelvic adhesions, intestinal kinks or abdominal hernias

So far as I am aware, Deeks,[1] in 1912, first called attention to the influence of an excessive sugar and starch diet in the causation of hyperacidity and ulcer This article has received only scant attention, judging from the current gastro-enterologic literature In the fall of 1913, while in Panama, I discussed with Deeks the results obtained, and examined a number of patients then under his care in Ancon Hospital My interest in the subjects dates from that time

Whatever may prove to be the ultimate explanation of the sequence of pathologic changes leading to ulcer formation in the stomach and duodenum, it is well recognized that hyperacidity has in probably every case, at some time, been a factor of at least contributary importance In my experience, reflex causes in the abdomen have served as an explanation for the hyperchlorhydria and hypersecretion in at least 50 per cent of the cases In the remainder, a faulty dietary with an excess of carbohydrates has, I am certain, been a factor At least this much may be said A majority of such patients are relieved of many of their symptoms, such as hunger-pain, pyrosis and flatulence, by restricting their carbohydrate intake When the hyperacidity and hypersecretion have existed for a considerable period of time with periodic intervals of improvement and relapse, definite ulcer is, of course, suspected A large majority of ulcer cases are amenable to medical treatment About 25 per cent, however, become chronic with undermined edges which show difficulty of repair Such patients, because of the chronicity and slow repair, are given greater relief by competent surgical intervention This does not refer to the complications such as extreme hemorrhage or perforation, many times calling for emergency surgery Such surgical relief is indicated if sufficient appropriate medical treatment has been tried and found wanting, and if such patients have suffered seriously in nutrition as a result of their chronic dyspepsia

According to the U S Department of Agriculture,[2] the annual consumption of sugar has increased threefold to 82 pounds per capita during the past fifty years This has been due, in part, to cheaper production and in part to the increased taste for candies, preserving syrups, condiments and pastries Starchy foods have also greatly increased, especially in the form of finely divided cereals from which the hull or shell of the grain has been removed Fifty years ago, sugar was a luxury, while today it has become a necessity The average individual feels that he must have sugar on nearly everything he eats Modern civilization has made us a nation of sugar eaters The consumption of sugar, per capita, in the United States in 1819 was 4 pounds, in 1821, 7 pounds In 1912, the per capita consumption of sugar was about ten times the per capita consumption ninety years ago, that is, 82 pounds In the United Kingdom, the average consumption in 1821 was 16 pounds per capita, in 1831, 18 pounds per capita, while in 1911, the per capita consumption was 92 pounds

---

[1] Deeks W E New York Med Jour Nov 30, 1912

[2] For the figures here given I am indebted to L. M Easthrook, chief of the Bureau of Crop Estimates U S Department of Agriculture The per capita consumption has been computed by adding the production of a given country to its imports and subtracting its exports See also Bull 66, U S Dept Agric, March 10 1914

The accompanying table shows the marked increase in sugar consumption in the United States, United Kingdom, France and Germany, since 1871

ESTIMATED AVERAGE PER CAPITA CONSUMPTION OF SUGAR IN FOUR IMPORTANT COUNTRIES *

Year	United States † Pounds	United Kingdom‡ (Net imports) Pounds	France ‡ Pounds	Germany § Pounds
1871	36	44	17	12¶
1881	43	64	22	15
1891	61	78	26	21
1901	71	91	24	27
1911	77	92	39	42
1912	82 4			

* U S Dept of Agriculture Bureau of Crop Estimates, Crop Records Division April 30 1915 Consumption" includes all uses in house holds in factories and elsewhere Figures for United States and United Kingdom refer partly to raw and partly to refined sugar for France figures for 1871 1881 and 1891 refer to raw and for 1901 and 1911 to refined sugar for Germany, figures in 1871 and 1881 refer to raw and other figures to refined sugar This table was compiled from the Statistical Abstract of the United States Statistical Abstract of the United Kingdom Annuaire statistique (France) and Statistiche Jahrbuch fur das deutsche Reich (Germany)

† For years ending June 30
‡ For years ending December 31
§ For years ending August 31
¶ 1872

In this connection it may be recalled that the stomach has no provision for the digestion of carbohydrates, with the result that under normal conditions a carbohydrate meal is rapidly passed through the stomach for digestion in the intestines With a mixed meal, however, a considerable portion of the carbohydrate constituents remain during the process of protein digestion in the stomach The gastric juice is without action on starch except to a very limited extent Deeks has contended that an excess of carbohydrates, especially saccharose, favors bacterial decomposition during this period of protein digestion The decomposition products which result are largely organic diffusible acids, such as lactic, acetic, proprionic, butyric and valeric acid These products, because of their irritating character on the gastric mucosa, promote hypersecretion This is especially true when bacterial decomposition of carbohydrates occurs as a result of the retention of starch and sugar during the digestion of the protein constituents of a mixed meal The symptoms of hyperchymification and hyperacidity occur, as is well known, toward the end of the period of protein digestion in the stomach

Such symptoms are supposed to be due to the fact that the stomach has emptied itself and that, in most instances, with a patulous pylorus, there remains little food to bind the acid of the gastric juice, which, according to the experiments of Carlson,[3] is continuously secreted As a matter of fact, gastric lavage within thirty minutes after a heavy carbohydrate meal has shown repeatedly, in my hands, an excess of organic acids It appears that the hyperchlorhydria and the hypersecretion which follows can be more rationally explained in such cases as a result of the elaboration of irritating organic acids from sugar fermentation than from any other cause It has been rare in my experience to encounter hypersecretion or hyperchlorhydria and ulcer in diabetic patients, who, because of the nature of their illness, partake sparingly of carbohydrates

Pawlow,[4] in his work on the "miniature stomach" in dogs, found that butyric acid strongly excites gastric secretion On the other hand, an excess of hydrochloric acid inhibits butyric acid fermentation within the organ With an ordinary amount of carbohydrates taken with a well balanced ration under normal conditions, but little butyric acid fermentation would probably occur because of the inhibitory action of the hydrochloric acid With a mixed meal containing an excess of carbohydrate which remains in the stomach during protein digestion, the inhibitory action is insufficient, and bacterial organic acid fermentation occurs The monosaccharids, such as dextrose, levulose and galactose, are fermented by yeast into alcohol and carbonic acid Lactic acid is also formed by the action of the *Bacterium lactis* The disaccharids, such as saccharose, maltose and lactose, are not fermented by yeast but may be broken up into lactic acid by the *Bacterium lactis* or butyric acid by the *Bacterium butyricum* of Pasteur or the micrococci of butyric acid fermentation discovered by Fitz Of the polysaccharids, starch is likewise subject to bacterial fermentation with the formation of organic acids

Pawlow has demonstrated that the ferment digestive power and likewise the total acidity of the gastric juice varied according to the nature of the diet The juice secreted after bread contained much more ferment than after meat, but the acidity was greatest after meat (0 56 per cent)., and lowest with bread (0 46 per cent) He found, however, that the hourly intensity of gland work was much less with bread, which means that the time required for the digestion of its protein constituents is longer and that the duration of gastric secretion is correspondingly protracted We have, therefore, in the type of carbohydrate digestion manifested by bread and cereals a relatively low acidity with protracted secretion These factors probably have much to do with bacterial decomposition of carbohydrates when the latter are present in excess

In the consideration of the apparent increased incidence of gastric and duodenal ulcer during the past fifty years, it is realized that statistics may be made to prove almost anything It is interesting to note, however that in Bennett's "Practice of Medicine," published in 1859 (Edinburgh), a classic of its time and containing many postmortem descriptions, only one perforative duodenal ulcer was mentioned (p 774) He says, also, "From what I have observed of postmortem examinations in the Royal Infirmary of Edinburgh, it does not appear to me that chronic ulcer of the stomach is a common disease here" Contrast this opinion founded on a large clinical experience at the Royal Infirmary, making due allowance for improved methods of diagnosis, with the last annual report of St Mary's Hospital, Rochester, Minn, where 302 duodenal and 169 gastric ulcers, or a total of 471, were diagnosed during 1914 It is interesting to note that the incidence of ulcer patients requiring surgical interference has increased to the greatest extent judging from the literature, in the two English speaking countries in which the consumption of sugar has been greatest during the past twenty-five years The operative records of the Mayos, Finney and others in this country, and of Moynihan and Mayo-Robson in England seem to bear out this statement

---

[3] Carlson A J Contributions to the Physiology of the Stomach XXXI The Secretion of Gastric Juice in Man Am Jour Physiol 1915 xxxvii 50

[4] Pawlow The Work of the Digestive Glands London 1902

From a practical standpoint, patients with hyperacidity and ulcer do better with an almost starch and
use ar free diet, at least during the time of active
ages, u ns The diet which I have recommended in
cancer, the of hyperchlorhydria, not due to reflex
physicians an pathologic conditions elsewhere, if
quacks of the eight is as follows (none of the
tion ceremony, the use than 10 per cent carbo-
materia medica, hex-docto hydrates in
surgical superstitions and folk-wa
symptoms of these subjects, taken at rand
the treatment studied, will throw you in
causes from remote story It is worth while to remem-
these can be excluded some of the most valuable
articles of food contain more have are often
hydrates, while as a rule the available ca per cent)
the vegetables of this group vary from 3 to 5 per cent

such as grapefruit, fresh fruit pulp and fruit juices, such as grapefruit, orange, peaches and watermelon without sugar, broth, soft boiled or poached eggs, fish and chicken, broiled or baked meats, bacon, milk, tea, cream, butter, green vegetables such as asparagus, spinach, cauliflower, watercress, endive, squash, carrots, turnips, lettuce, fruit and lettuce salads with olive oil dressing containing a very small amount of lemon juice, Brazil nuts, pecans or filberts The following are prohibited candy, sugar, syrups and condiments, the fresh fruits which contain more than 10 per cent carbohydrates, such as apples, pears, bananas, cherries, currents plums, of the vegetables, peas, parsnips, baked beans, potatoes, green corn, the cereals, boiled rice, macaroni, bread, crackers, cocoa, chocolate, and coffee

If the symptoms do not rapidly subside by thus restricting the intake of carbohydrates, and if hypersecretion persists, a glass of milk is administered between meals and a powder consisting of magnesium oxid (calcined magnesia) and sodium bicarbonate, of each 20 grams after each feeding Bismuth subcarbonate may be added to the powder if diarrhea is present It is, of course, difficult to rid the stomach of the bacteria of starch and sugar fermentation, and if the organic acids persist, as evidenced by flatulence and pyrosis, gastric lavage may be employed, a liter of a weak solution of salicylic acid 1 1,000 once daily, one hour before the principal meal, being used

In the treatment of active ulcer, rest in bed is secured and rectal alimentation carried out during a period of three or four days, or until vomiting or signs of hemorrhage have ceased A liquid diet is then begun, consisting of albumin water and fruit juices without sugar, milk and broth, administered in small quantities of 2 or 3 ounces every two hours The medication consists of bismuth subcarbonate, magnesium oxid, and sodium bicarbonate An alkaline water, such as the artificial Vichy, is also used When is of tolerance are established, the quantities are ased until usually after a week or ten days the nt is gradually allowed to take the softer articles he diet outlined above Stress is laid on the feeding of small quantities at frequent intervals, usuall from one and one-half to two hours, since the hyper secretion seems to be diminished by such a plan It the patient is suffering seriously from starvation and malnutrition, commonly ascribed in general terms to "acidosis," and especially if surgical intervention is contemplated, more or less continuous enteroclysis by the drop method is used The solution consists of ordinary tap water containing 1 ounce each of dextrose and sodium bicarbonate to the quart

Attention to the coexisting constipation is important in the general treatment of hyperchlorhydria and chronic ulcer The plan which has given me most satisfaction has been the use of liquid petrolatum with fruit juice once or twice daily, together with copious water drinking and attention to regular habits The important point in the medical treatment of hyperchlorhydria and ulcer appears to be to decrease the intake of sugar and starchy foods and to use such means as will limit bacterial decomposition in the stomach The essential point I wish to bring out is that organic acid decomposition of sugars and starches appears to play an important rôle in the production of hyperchlorhydria and its sequelae

216 C
growth, pelvic adhesions, intestinal
hernias
So [illegible] Building

THE EPIDEMIC OF TYPHUS EXANTHEMATICUS IN THE BALKANS AND IN THE PRISON CAMPS OF EUROPE*

BERT W CALDWELL, M D
Hospital Administrator, American Red Cross Sanitary Commission to Serbia Director American Red Cross Sanitary Commission to Prison Camps in Germany
PITTSBURGH

The epidemic of typhus exanthematicus which spread over Serbia from December, 1914, to the end of July, 1915, was, in proportion to the territory involved and the population affected, the most severe that Europe has ever experienced The spread of this epidemic from the Danube to the Greek boundary, involving every hospital, prison camp, soldiers' barracks and almost every home, was due entirely to preventable causes, to inexcusable indifference on the part of the Serbian civil and military authorities, and to carelessness which amounted to crime

It is impossible to tell how many were afflicted with this disease, as there are no reliable statistics available The military reports do not include the civil population and those who were ill and died of this disease unat tended by physicians where no diagnoses were made Conservatively, one out of every five of the two and a half million population was attacked by typhus, and 135,000, including 30,000 Austrian prisoners, died of typhus during this epidemic The hospital mortality ranged from 19 to 65 per cent No part of the country escaped, and every city, town and village in Serbia contributed to the morbidity and to the consequent mortality

The unreliability of the estimates in this epidemic is further increased by the fact that the Serbian physicians classified typhoid fever as typhus abdominalis, relapsing fever as typhus recurrens, and typhus fever as typhus exanthematicus, and they used the term

---

* Read before the Section on Public Health and Medical Science of the Pan American Scientific Congress Washington, D C, Dec 28, 1915

"typhus" vicariously to indicate any one of these three diseases Lack of physicians in hospitals and among the civil population caused the diagnosis of typhus to be made in almost any case with increase of temperature, and was given as the cause of death in many cases in which it did not exist

The word "typhus" covered a multitude of sins in diagnosis, as well as a world of ignorance and carelessness This does not apply, however, to the better hospitals under Serbian control, or to those managed by the American Red Cross units, or to Red Cross missions sent from other countries

INCIDENCE AND TRANSMISSION OF TYPHUS

Typhus is transmitted by the louse The body louse is completely incriminated, the head louse probably so, and the crab louse not at all While no human experiments were made in Serbia, still the observations made in those cases of typhus occurring in hospitals and private homes gave no evidence that the disease is transmitted in any other manner than through the bite of the infected louse Measures looking to the eradication of lice from people and from their habitations, the improvement of personal and community cleanliness and hygiene, and the isolation of people afflicted with the disease, within a short time placed the epidemic under complete control Like cholera, typhus is one of the easiest infections to prevent, and should it creep in, it is one of the easiest to eradicate when conditions favor, and when our present knowledge of the control of the disease is scientifically applied It is essentially a disease of winter months, and no sanitary measures at present known are better or more efficacious than warm weather and sunshine, when the poor can leave their crowded quarters for the open air, and when bathing can be accomplished frequently, when clothing can be washed and changed frequently, and when lice leave because of the heat which they cannot endure As the colder months, with their congested conditions, immediate want and squalor, are ideal conditions favoring a typhus epidemic, so warm weather, accompanied by the sunshine, which permits the population of homes and communities to seek more hygienic living conditions, to take better care of their clothes and persons, and to destroy the lice with which they have been infested, are the conditions which favor the control and eradication of this disease Want, squalor and the overcrowding of people, soldiers and prisoners afford conditions which are ideal for the breeding of lice and the propagation of this dangerous infection, where the facilities for bodily cleanliness and personal hygiene are denied, where filth and squalor exist and is added to by each incoming guest, and when the climate is so severe that heavy clothing with infrequent changing is imperative

Typhus has an incubation period of about fourteen days, probably a little under fourteen days than a longer period Eruption follows the onset closely, and reaches it maximum intensity on the fifth day It is during this five day eruptive period that the presence of the infected louse becomes dangerous to the nonimmune, after this period of the disease and during the convalescence, there is little or no danger of the louse becoming infected after feeding on the patient The disease reaches its climax and if death does not ensue, a long and difficult convalescence is experienced The mental distress and disturbance, often serious in character, invariably follow Gangrene of the extremities, at times necessitating amputation, complicates convalescence Severe emaciation attends the convalescent stage, and a general neuritis is often noticed The disease seems to be a general septicemia, but nothing has been discovered at necropsy to throw any light on the pathology of this disease, with the exception of the recovery from cultures taken from the spleen of an organism resembling the Plotz organism

Sex influences the incidence of typhus Adult males are particularly susceptible, adult females form a very small percentage of those infected, and a still smaller percentage of those who die of the disease Usually the disease when attacking females is mild in type, and the severe sequelae which follow the disease in males is not noticed among the females who have suffered from this infection Children are seldom attacked The greater opportunity which women and children have, and which they exercise, for the cleanliness of their clothes and persons, and which men, especially soldiers on campaign and prisoners in barracks, are usually deprived of, undoubtedly affords protection to the weaker sex, so also those who live in sanitary surroundings, and who have an opportunity to live in comparatively good hygienic conditions, are equally protected

With proper precautions, large numbers of those who are not immune can live in the midst of a typhus epidemic and escape the disease In Monastir, during the period of the epidemic, our American missionaries maintained a school and orphanage having an attendance of 140 pupils Their school is located in the center of the city and within a stone's throw of four of the largest hospitals, accommodating at one time 3,000 typhus patients In addition, typhus was present in the homes of many of the immediate neighbors, and the teachers in this school and the senior pupils visited the hospitals regularly two or three times a week, to minister to the sick, and yet there was not a single case of typhus among the pupils or faculty of this school In Belgrade, a foundlings' home, containing forty children, is located just across the street from the civil hospitals, and Dr Ryan's Red Cross Hospital, where thousands of cases were treated in the course of the epidemic, and no case of typhus occurred in this orphanage The insane asylum in Belgrade, containing 180 males and 150 females, is located adjacent to the civil hospital, and is separated from it only by a high stone wall The inmates of the asylum performed manual labor in and about the hospital grounds, yet during the entire epidemic only four cases of typhus occurred in the asylum, and the progress of the epidemic was immediately checked

THE EPIDEMIC IN SERBIA

Only where the conditions for hygienic living were provided did the Serbian people escape All classes and professions were affected The medical profession in Serbia suffered more from the disease and consequent mortality than any other profession, in proportion to its number Overworked and exhausted by the endless labor of caring for their sick, these civil heroes lost 160 of their number out of a total of 340 at the beginning of the war To these self-sacrificing men and women a glory as great as any gained on the battlefield or in fire shelled trench is due They spared themselves not, they spared no effort and no labor, but worked until exhausted and the disease attacked them Among our own American physicians who went to the aid of the stricken people of Serbia, five died two of whom, Drs Donnelly and MacGruder, were members of the American Red Cross units The nurses did not escape, they too performed heroic deeds, and in one of our Red Cross units eleven out of fourteen were stricken with typhus, happily none of them died The physicians and nurses which other countries sent to Serbia suffered as heavily

The conditions for the spread of the epidemic in Serbia were ideal During the Balkan War, typhus had invaded Serbia and had never been completely eradicated Here and there scattered through the country, especially in the northern districts, were sporadic cases, and from these foci of infection the epidemic had its origin The people were exhausted from previous wars, they had been invaded by a large army, and the civil population had retreated as the army fell back Belgrade in normal times has 100,000 people, during the war only 30,000 remained The smaller cities and villages in central and southern Serbia soon became congested and overcrowded The lack of bathing facilities in the homes of the better class of Serbians, their entire absence in the homes of the middle and poorer classes, the crowded conditions in which they were forced to live, the cold months of the winter, all favored the intense spread of the epidemic which had started Then came their military success The Austrian army was thrown back through the invaded territory and across the Save River, and 70,000 Austrian prisoners were taken captive These prisoners, starved, exhausted and vermin infested, were distributed in the little cities and villages of central and southern Serbia, thus further increasing the already overcrowded conditions

In December, 1914, a sick soldier was sent to his home in Belgrade and was confined to his bed for three days before a physician was called and a diagnosis of his case made His home was in one of the thickly populated quarters of Belgrade, and many of the members of his family, and his curious but well meaning neighbors, visited him during this period of his illness When a physician was called the patient was found to be in the fourth or fifth day of the eruptive period of typhus No effort was made to isolate or quarantine this patient, and people were permitted to visit the patient as before until he died Within two weeks in this particular section of the city, dozens of cases of typhus developed, and the epidemic spread through all quarters of the city

In six months it was estimated that 7,000 cases of typhus occurred in the city of Belgrade alone, the civil hospital caring for 1,850 of them, with a mortality of 19 per cent, which was the lowest hospital mortality of which I know in any hospital in Serbia At the same time in other cities of Serbia, among soldiers, prisoners and the civil population, the epidemic was increasing at a fearful rate, and by the middle of January practically the whole of Serbia was involved The overcrowded conditions in the hospitals in northern Serbia led the Serbian authorities to distribute the surplus sick suffering from typhus among the hospitals in the cities and villages of central Serbia and Macedonia, in many instances infecting cities in which the disease had not existed up to that time Owing to lack of room in hospitals, soldiers and others connected with the army becoming infected with typhus were sent to their homes in whatever part of Serbia they might live, in this manner carrying the disease broadcast with them

From this time there was no possibility of controlling the epidemic with such means as the Serbian authorities had at their command Such efforts as were made by the medical authorities were feeble and unavailing, indeed, the epidemic had grown to such proportions that the entire time and labor of the few physicians in Belgrade and throughout Serbia were devoted to waiting on those already infected with the disease The Serbian authorities lacked organization, capacity and direction, and the most inexcusable and unexplainable things were permitted to be done by them Trainloads of typhus patients were sent from northern Serbia to all parts of the country, even to the extreme southern boundary, in this manner invading many localities with the infection which were comparatively free from the disease The cities in which the few cases of typhus had already made their appearance might have been protected by prompt isolation, disinfection and efficient quarantine All these measures were entirely neglected Their hospitalization was miserable The regular hospital establishments were too few in number and of too small capacity to accommodate those who had been wounded or taken ill during the military campaign, and schools, colleges and public buildings of all kinds were hurriedly converted into emergency hospitals, to accommodate those who were becoming infected with typhus Two beds were placed side by side together and a single mattress placed over them, in this manner affording accommodation for three patients where only two could have been accommodated before No wards were segregated for the special use of treating typhus patients, but the incoming patients were scattered indiscriminately throughout the hospitals in whatever section or ward an empty place could be found Often a patient suffering from typhus in the active stage of the disease was placed between two patients on the same bed who were not suffering from the disease, and in the due course of time all became infected Every hospital became a hotbed of infection Few of them had anything like sanitary arrangements, and in them only military patients were accommodated

The civil population was almost entirely neglected, only such attention in a professional way was given to patients in their homes as could be given by physicians already overworked by their duties in the military hospitals In one section of Macedonia, containing a population of 250,000 people, there were only eight physicians, all of whom were attached to the military service, and not a single one was left to give any attention to the civil population Hundreds of new cases were reported daily, and the deaths reached an alarming total The people, long inured to hardship and misfortune, became disheartened and discouraged at the fearful danger that was threatening them with extermination Starvation and squalor added their terrors to the frightful picture, and the people were without hope

WORK OF THE RED CROSS

It was amid such surroundings and at such a time that the American Red Cross Sanitary Commission and the commissions sent by the governments of England, France and Russia arrived in Serbia during the month of April, and began their energetic campaign to combat and control the disease There were never more favorable conditions for the spread of an epidemic than those existing in Serbia at this time With these commissions came what was far more valuable to the suffering people and far more effective in the control of the disease — the warmer weather and the sunshine With every warm day the disease lessened

The people left their crowded homes the prisoners were permitted to leave their congested barracks, and the soldiers had greater and more opportunities and time for the promotion of personal and community cleanliness These new conditions, aided effectively by the activities of the American Red Cross Sanitary Commission, under the energetic, experienced and versatile director, Dr R P Strong, soon placed the infection in that portion of Serbia which was assigned to the American Red Cross Sanitary Commission for the field of its labors under good control, and a few weeks later the disease was completely eradicated

Serbia, for the purposes of controlling the epidemic, was divided into four sections the northern and eastern sections were assigned to the French and Russians, respectively, the central section was assigned to the English, and the southern, comprising practically half the area of Serbia and many of its larger and more important cities, was assigned to the American Red Cross Sanitary Commission Immediately after arrival, the Americans began their campaign in Uskub, Veles, Prizien, Pristina and Monastir, and while on the first day of May there were 3,000 cases in Uskub, 1,500 in Veles, 1,000 in Prizien, 1,000 in Pristina, and 2,000 in Monastir, three months later, August 1, there were not a dozen active cases in all of these cities or in the remaining parts of Macedonia

The measures taken by the American commission consisted in fumigating all hospitals, barracks, schools, and other foci of infection The patients in the hospitals were bathed with soap and water and kerosene, and their clothes were disinfected by steam at a temperature of 115 C (239 F) for thirty minutes After this process the patient was returned to a clean and vermin-free ward This process was repeated as necessary Soldiers and prisoners in barracks were bathed and their clothing disinfected in a like manner Houses in which typhus was present were fumigated, and the patients were quarantined and isolated, or removed to the typhus lazarettos connected with the local hospitals A general sanitation of towns and cities was instituted, bath-houses were built, sewers were constructed, and proper disposal of sewage and garbage was insisted on Emergency hospitals were abandoned as rapidly as possible, and patients suffering from typhus were segregated and sent to hospitals or wards especially dedicated to the treatment of these cases General sanitation and hygiene were insisted on throughout the territory, and conditions rapidly improved With the coming of the warm months of summer the disease disappeared, and it is worthy of note that it disappeared coordinately in all parts of Serbia, in those districts in which the missions from other countries were laboring, to the same gratifying degree as in the district to which the American Sanitary Commission was assigned Only in the thickly populated districts of northern Serbia was an isolated case here and there reported, and it does not seem to have been completely eradicated in this territory In the event that conditions such as existed during the past winter repeat themselves during the coming winter, Serbia, or at least the northern part, will again experience an epidemic of typhus

PREVENTION OF SPREAD TO NEIGHBORING COUNTRIES

As magnificent as were the results which attended the labors of the American Red Cross Sanitary Commission, not less worthy of credit, and certainly more marvelous, were the accomplishments of the countries bordering on Serbia, in keeping the disease from getting a foothold within their borders A number of cases, probably a thousand or two, were reported in those parts of Austria-Hungary adjacent to Serbia, but the epidemic was not permitted to spread, and after a time was eliminated entirely in the localities in which it had made its appearance

In Roumania, which is the highway of travel between Serbia and the southern part of Europe and Russia, the energetic measures taken in the quarantine station at the Roumanian-Serbian border completely prevented the entrance of the disease into this country

Bulgaria, with its highly developed corps of physicians and sanitarians, which bounds Serbia for almost its entire length on the east, and which is another highway of communication between southern and western Europe, succeeded in preventing any typhus from crossing its boundary line

The most creditable of all, however, was that of the Greek physicians and quarantine officers and sanitarians Greece bounds Serbia on the south, and since the beginning of the war the only communication which Serbia had with the rest of western Europe and America was through the port of Saloniki, a city of 200 000 people, with an additional 40,000 refugees of all classes, located in buildings and barracks within and about the city Saloniki is connected with Serbia by two lines of railroads, and the old Via Romana highway affords another means of communication between Monastir and Saloniki Hundreds of thousands of people traveled in and out of Serbia through this port, and were exposed constantly to the disease while in Serbia during the lifetime of this epidemic, yet such were the carefully executed measures established by the Greek quarantine officers and sanitarians, that less than 200 cases were reported in Saloniki and in the remaining cities of Greece while the epidemic in Serbia existed At each point of entrance into Greece, the Greek authorities had instituted quarantine stations equipped with disinfecting plants and isolation wards, and every passenger on every train, and every one crossing the boundary line on foot or by conveyance of any kind, was stopped at these stations, examined by competent quarantine physicians, his clothing and baggage disinfected, and all suspicious cases with increase of temperature, due to any cause, held for an incubation period of fourteen days before being permitted to continue the journey into Greece

Any traveler from Serbia or Saloniki, or any other city in Greece, was again examined by a physician, who issued him a card on which were blanks for the recording of temperature for the five succeeding days, and under heavy penalty for failure to carry out the instructions, the traveler was ordered to report daily to the local physicians for the recording of his temperatures In the city of Saloniki, where a majority of the cases reported made their appearance, the authorities handled the situation in a correct and scientific manner Every case in the city with rise of temperature from any cause was reported to the health officer, who held the attending physician to a strict account for the faithful reporting of progress and diagnosis in the case

In any case of doubtful diagnosis, expert professional advice from the health office was tendered without charge to the patient, and in case a diagnosis of typhus was made, the patient was called for by an ambulance, taken to a central disinfecting plant, where his clothes were taken from him and disinfected in an autoclave, the patient given a hot water, soap and kerosene bath, his hair cut, and new hospital clothes given to him, and in a different ambulance from that which conveyed him to the disinfecting station, he was removed to a typhus lazaretto located at the edge of the city, and there remained until his recovery He was not permitted to receive any visitors or any article sent from the outside, and was waited on during his illness by a competent force of physicians and hospital attendants The feat which these efficient sanitarians accomplished in preventing the epidemic from gaining a foothold in their city, which was at that time the greatest and busiest port in the Levant, is a wonderful demonstration of what proper hygiene and sanitation will do

THE CARE OF PRISONERS

Among the problems which confront all the countries engaged in this war are the care, treatment and preservation of the health of the prisoners which they take captive These men, brought together from all parts of the world, and suffering all the hardships of long and arduous campaigns, under the most unfavorable living conditions, especially when engaged in trench warfare, are, when they are taken prisoners, usually in a state bordering on starvation, exhausted in mind and body, and almost without exception vermin infested To the country which takes these men captive comes the great problem of preventing the bringing in of contagious and infectious diseases, which threaten the health and lives not only of other prisoners, but also of their own soldiers and civil population So far as typhus is concerned, these countries handled the situation with wonderful success

One of the countries having upward of 2,000,000 prisoners and in which prison camps accommodating forty or fifty thousand prisoners are not unusual, has succeeded in keeping typhus from coming in, excepting in one or two camps In the camps in which the epidemic has occurred, it has been controlled with a minimum degree of sickness and loss of life Their methods for controlling this disease are simple but very effective when consistently carried out On the entrance of a number of new prisoners into any prison camp, they are immediately isolated in a section of the camp separate from the remaining barracks, for a period of fourteen days On admission to these isolation barracks each prisoner has his hair cut, is taken to a central bath-house, disinfecting plant and laundry, located in the center of the isolation compound, where he is bathed with cresolized soap and water, and afterward with kerosene, during which process his clothes are disinfected with live steam at a temperature of 135 C (275 F) for twenty minutes After his bath his clothes are returned to him and he departs from the building through an exit in the rear of the bath-house This process is repeated during the fourteen day period every four or five days At the end of that time the prisoners are mustered for personal inspection by the prison physicians, and if they are in condition they are sent to their permanent barracks in the other compounds

In the event that any case of infectious disease occurs in any part of the prison camp, the patient is at once removed to a well equipped hospital attached to the prison, and is there isolated and quarantined until he is free from danger to the other prisoners The American Red Cross Commission, sent to Germany for sanitary work in the prison camps in that country, personally inspected camps in which there were 125,000 prisoners They mustered, for personal inspection of clothing and persons, hundreds of prisoners of different nationalities in the different camps, they personally inspected hundreds of barracks in which prisoners were quartered, and thousands of beds and bunks on which the prisoners slept, and not a single louse or bedbug was discovered This demonstrates the wonderful care and application which the authorities of this government use in preventing the incidence of contagious diseases of any sort among its prisoners, and illustrates most forcibly what energetic and correct measures will accomplish when scientifically applied in the prevention of infection

The greatest hotbed of typhus and other infections existing in Europe before the outbreak of the epidemic in Serbia was in Galicia and Poland, along the Russian battle front With the overrunning of these two immense provinces by the contending armies, the danger from the spread of the disease to the remaining parts of Europe became greater and more apparent each day When finally the Russians were driven back beyond the borders of Galicia and Poland, and the current of travel between important points of these two provinces again began to flow, it became necessary for the German and Austrian governments to make great preparations and take the most effective measures to prevent the ingress of infection On this front is built what the Germans call a "louserin," which was completed at a cost of 5,000,000 marks, ($1,250,000), and was paid for out of the private fortune of the German emperor To this great establishment all persons, of whatever age, nationality or rank in life, going from Germany into Poland or Galicia, and from those provinces returning into Germany or Austria, are sent and are detained for five days, during which period they are bathed daily, and their clothes disinfected in large autoclaves with each bath At the end of the five day period each traveler is given a personal examination, and on being found to be free from disease or vermin, is given a certificate which permits him to continue his journey across the frontier No exception is made in the case of any traveler, no matter what his rank or station in life may be, the imperial family being just as amenable to the rules of this great establishment as the poorest subject of Poland or Germany

DISEASES COMMUNICATED BY FLIES AND OTHER INSECTS

In Serbia, in addition to typhus, relapsing fever, which is transmitted by the bedbug, was prevalent in large numbers The sanitary methods applied by the American Red Cross Sanitary Commission in combating the typhus epidemic went very far toward the elimination of relapsing fever, especially the fumigation and disinfection of barracks, hospitals, beds and clothing It did not disappear with the approach of summer, but decreased to a very great degree Typhoid fever was constantly present — not in epidemic form, but in sufficient numbers and covering a sufficiently wide range of territory to become a serious problem The cities and villages of Serbia, without exception are built on rapid running streams, usually on both banks of the river, which serves the common purpose of sewer, bath, laundry and drinking water supply Only the fact that the water which supplies these streams comes from the mountains, and that generally the streams are rapidly running over gravelly beds and the water has a tendency to purify itself quickly, is a greater incidence of water-borne diseases prevented

The fly problem is always serious, and the natural habits of the peasants and their living conditions all tend to the increase of fly breeding Manure of all sorts is carefully saved for the fertilization of the fields, and other purposes Human and animal feces is carefully conserved, mixed with straw enough to hold it together, made into large circular cakes, and pasted against the outside walls of the habitations of the people, there to remain until dry and hard, and in this condition to be carefully saved for fuel purposes during the succeeding winter Every house, every alley, every street, every place, was a breeding place for flies, and typhoid fever has probably been one of the current diseases in Serbia and Macedonia for generations

The country is farmed by irrigation Every valley has its mains and laterals running through it, all the ditches grass-grown and shaded to prevent evaporation, affording ideal places for the breeding of mosquitoes Malaria, during the months of July, August, September and October, is prevalent to an unusual degree It is peculiarly pernicious in its forms, and I know of more deaths resulting from malaria infection in Serbia during the six months I was present there than occurred in Panama during any one of the nine years of the American occupation

In addition to all these diseases, Uskub and other cities of Serbia experienced epidemics of pappataci fever — a three or four day fever, not fatal in character, communicated by the pappataci gnat, which is prevalent along the Adriatic shores and in this section of the Balkans The patient suffers severely from headaches, back and body pains, and congestion of the conjunctiva, throat and nasal passages, and has a temperature of 104 F for two or three days, which then subsides, and a rapid convalescence ensues The treatment for this fever is purely symptomatic, no measures have been discovered other than general sanitation and hygiene to combat this disease

Cholera did not make its appearance in Serbia during the past year

TREATMENT OF TYPHUS

The treatment of typhus fever is unsatisfactory It is supportive and symptomatic in character The use of the serum prepared by Nicolle, or the vaccine prepared from the Plotz organism, seems to have a tendency to abort the disease, and seems to have a therapeutic value Plenty of water should be given to the patient, and a saline infusion should be constantly at hand for use at any period succeeding the eruptive stage and the climax of the disease The severe emaciation which attends all these cases should be carefully managed The diet should be carefully selected and carefully administered, and every precaution to support and stimulate the patient judiciously should be taken The nervous and mental systems, which are very much disturbed, should be carefully cared for, and this disturbance, often continuing for six months following convalescence, should never be neglected

The prophylactic measures which were employed in Serbia by the American Red Cross Sanitary Commission, and those which are used in the prison camps in Europe and in the quarantine stations of the countries bordering on Serbia, afford an effective prophylaxis in this disease The value of the Plotz vaccine in immunizing against typhus infection is problematic It probably has a value which will be fully demonstrated before typhus is eliminated from the Balkans It was interesting to note that out of two or three hundred people not immune to typhus, who found it necessary to go to this part of Europe during the epidemic, all of whom were inoculated with the Plotz vaccine, among which number were all of the members of the American Red Cross Sanitary Commission, with but one exception, and the members of the mission which Columbia University sent to Serbia, and many others who were exposed at some time or another to a greater or less degree to the infection, not one case of typhus developed

CONCLUSION

The lessons which this epidemic teaches is particularly valuable to the sanitary world, especially to those localities which are from time to time subject to an epidemic of typhus fever It demonstrates beyond any question of a doubt that the disease can be kept out of a country by instituting proper quarantine and sanitary measures, and by the proper observance of personal and community cleanliness and hygiene It has demonstrated with equal certainty that if it should at any time secure a foothold in any locality, it can be easily limited and eradicated in a short time With our present knowledge of the measures which control this disease, we can take a very optimistic view of the future, and assert with confidence that the epidemic of typhus which Serbia has so recently experienced is probably the last one which will occur in Europe, unless conditions favoring an epidemic are worse than ever before existed in the history of the continent

---

STRONTIUM SALICYLATE *

M A BLANKENHORN, M D

CLEVELAND

The salicylate of strontium has had a therapeutic reputation for which there is no satisfactory foundation discoverable It has enjoyed a vogue that is largely due to the propaganda of manufacturers rather than to the writings of any experimenters or carefully observing clinicians The literature on strontium is quite meager and not at all convincing The standard works on therapeutics are quite uniform in the statements regarding the use of strontium, so uniform in fact that it suggests the probability that they are from the same original source and that strontium has been "lugged along" from one edition to another from no well established starting point For instance, Wood[1] says

> The strontium salicylate, nonofficial is a valuable compound which slowly yields up its salicylic acid in the alimentary canal and has the great advantage of being much less apt to derange the digestion It is however too slow in its influence to be used when a quick, powerful effect of the salicylates is desired

Hare[2] says

> The salicylate of strontium is a valuable preparation, because it is not so disagreeable to the taste as the corresponding salt of sodium, and more important still it is far less apt to disorder the stomach than salicylic acid itself or any of its other salts The author has found it for these

---

* From the Medical Service Lakeside Hospital

* The subject of this research was suggested by the Committee on Therapeutic Research of the Council of Pharmacy and Chemistry of the American Medical Association

[1] Wood Horatio C Therapeutics Its Principles and Practice Ed 11 p 582

[2] Hare Hobart Amory Text Book of Practical Therapeutics Ed 11 p 428

reasons very useful in acute articular rheumatism when the progress of the patient was delayed by the inability of his stomach to retain the ordinary antirheumatic remedies The salicylate of strontium is best given in capsule or cachet, and should always be followed by a draught of milk or water to prevent its coming in contact with the stomach in too concentrated form The dose is, for all practical purposes, identical with that of the salicylate of sodium

Strontium itself is acknowledged to be inert, although it was at one time asserted to be "valuable in Bright's disease"

Wood and Arnold[3] found that only minute traces of any strontium salt appear in the urine when given internally, and that no salt of strontium is absorbed from hypodermic injections

As to the salicylate of strontium, the same experimenters can be quoted Horatio C Wood[4] says

TABLE 1—SUMMARY OF TWENTY THREE CASES TREATED WITH STRONTIUM SALICYLATE IN COMBINATION WITH EQUAL AMOUNTS OF SODIUM BICARBONATE

Name	Age	Sex*	Diagnosis	Dosage				Antipyresis	Relief of Pain	Diaphoresis	Ear Symptoms	Gastric Symptoms	Delirium
				Total Grains	Grains	Interval	No						
S S	34	♀	Acute articular rheumatism	280	20	1 hr	14	Marked	Marked	Marked	Ringing deafness	Nausea and vomiting	Slight
D M	20	♀	Gonorrheal arthritis	100	20	1 hr	5	3 › 1	Slight	Slight	Ringing deafness	Nausea and vomiting	None
F M	25	♀	Sciatic neuritis	140	20	1 hr	7	0 5	Very slight	None	Marked tinnitus	None	Marked
S S	34	♀	Acute articular rheumatism	380	20	1 hr	19	1°	Marked	Marked	Distinct deafness	Slight nausea	Talkative and hilarious
J R	16	♀	Acute articular rheumatism acute endocarditis	260	20	1 hr	13	3°	Marked	Marked	Slight	Very nauseated	Slightly irrational
M N	16	♀	Acute endocarditis	500	20	1 hr	25	1 5	Marked	None	Marked	Slight nausea	None
M L	22	♀	Erythema nodosum	180	20	1 hr	9	None	None			Nausea	None
R S	14	♀	Cervical adenitis	180	20	1 hr	9	Slight	Slight			Nausea	None
M M	48	♀	Lobar pneumonia	160	20	1 hr	8	Slight	Slight			Nausea	Slight
F M	16	♀	Chronic arthritis	220	20	1 hr	11	None	Slight			Nausea	None
M R.	15	♀	Chronic endocarditis	200	20	1 hr	10	None	None			Nausea	None
M G	27	♀	Acute articular rheumatism	220	20	1 hr	11	Slight	Marked			Nausea	None
A G	15	♀	Chronic endocarditis	140	20	1 hr	7	None	None			Nausea	None
I J	19	♀	Chronic endocarditis	140	20	1 hr	7	Slight	None			Nausea	None
G P	26	♂	Acute articular rheumatism	300	20	1 hr	10	Marked	Marked	Slight	Tinnitus deafness	Nausea	Slight
G P †	26	♂	Acute articular rheumatism	200	20	1 hr	10	Slight	Slight	Slight	Tinnitus deafness	None	None
I S	26	♂	Acute rheumatic myositis	140	20	1 hr	10	2°	Marked	None	Slight deafness	None	None
F M	14	♂	Acute articular rheumatism	120	20	1 hr	6	None	Marked	None		Nausea	None
J C	23	♂	Chronic articular rheumatism	240	20	1 hr	12	Slight	Slight			Nausea	None
J P	22	♂	Acute articular rheumatism	340	20	1 hr	17	Marked	Marked			Nausea	None
T S	24	♂	Acute articular rheumatism	440	20	1 hr	22	None	None			Nausea	Slight
J O	23	♂	Chronic articular rheumatism	240	20	1 hr	12	Slight	Slight			Nausea	None
H H ‡	12	♂	Acute endocarditis	120	20	1 hr	6	None	Slight		Slight tinnitus	Nausea	None
H H	12	♂	Acute endocarditis	100	20	1 hr	5	None				Nausea	None
H H	12	♂	Acute endocarditis	100	20	1 hr	5	None				Nausea	
H H	12	♂	Acute endocarditis	120	20	1 hr	6	None				Nausea	
H H	12	♂	Acute endocarditis	80	20	1 hr	4	None				Nausea	
H H	12	♂	Acute endocarditis	100	20	1 hr	5	None				Nausea	
L P	20	♂	Endocarditis (chronic)	280	20	1 hr	14	None	None			Nausea	None

* In the table ♀ means female, and ♂ male

† Medication repeated after five days

‡ Medication repeated after intervals of one, two, four six, and six days, respectively

> In the experiments of Wood and Arnold it was found that when a solution of strontium salicylate was added to the 0 1 per cent solution of hydrochloric acid practically all of the salicylic acid is at once set free Also, that when strontium salicylate is given to man the urine in an hour contains much of the acid, but only a trace of the base As the 0 1 per cent hydrochloric acid solution is considerably less acid than is normal gastric juice, it is evident that the strontium salicylate is at once decomposed in the stomach, and that the strontium acts almost solely as a carrier There is reason for believing that the strontium is a feeble antiseptic, and that when in the alimentary canal it acts favorably on the digestive glands and muscles, so that in the case of the official salts, strontium bromid, strontium iodid, and the nonofficial strontium salicylate, the base is useful as a carrier which yields the substance with which it is in combination to absorption and at the same time improves digestion

Beyond this and one or two similar statements very little can be found favorable to strontium even as a carrier for salicylic acid Obviously the only claim clinically and experimentally for strontium is that it modifies favorably the action of the anion — especially its action on digestion

The claim or impression that strontium diminishes digestive disturbance and perhaps slows or moderates absorption could be well tested on the salicylate The actions of the salicylate ion are so definite, and have been so extensively studied, quantitatively as well as qualitatively, that any differences in the effects could be easily discovered

It was with the hope of finding if strontium salicylate was any different therapeutically from any other salicylate, taken internally, that it was used in the medical wards at Lakeside Hospital for this report It was used in the treatment of rheumatic fever, tonsillitis, and endocarditis mainly, in the same wards and practically under the same conditions obtaining when observations were made on the toxicity of salicylates as reported by Hanzlik[5] In all cases the patients were above 12 years of age, and the drug was given in 20 grain doses combined with an equal amount of sodium bicarbonate, hourly, until symptoms of intoxication appeared The bicarbonate was added, since this is the routine practice of the service with sodium salicylate, and was therefore necessary for the purposes of comparison The nursing staff was instructed to report the signs of intoxication, and when the patients showed definite signs of nausea or vomited, administration was stopped The usual records were kept at the bedside, including in every case an accurate account of the amount taken The ward physician on a separate form kept a record of the data contained in Table 1

---

[3] Wood and Arnold Philadelphia Monthly Med Jour, April, 1899

[4] Wood, Horatio C Therapeutics Its Principles and Practice, Ed 11, p 687

[5] Hanzlik, Paul J A Study of the Toxicity of the Salicylates Based on Clinical Statistics, The Journal A M A, March 29 1913 p 957

The powdered form was given mixed with the sodium bicarbonate, both being placed on the tongue and washed down with from 2 to 4 ounces of water Water was given freely between doses, and a liquid or soft diet when possible The powders were weighed and put up by the resident pharmacist

It will be seen by Table 1 that the extremes of the toxic dose are 80 and 500 grains The mean dose is 180 The mean dose giving marked relief of pain is 260 Comparing these figures with those given for the mean toxic dose of other salicylates, it is seen that they are all very much the same Hanzlik[6] reported the mean toxic doses of the various salicylates for adult males and females as in Table 2

TABLE 2—MEAN TOXIC DOSES OF THE VARIOUS SALICYLATES

	Males	Females
Synthetic sodium salicylate	180 grains	140 grains
Natural sodium salicylate	200 grains	135 grains
Methyl salicylate	190 minims	1[illegible]0 minims
Acetyl salicylic acid (aspirin)	1[illegible] grains	1[illegible]0 grains
Salicylosalicylic acid (diplosal)	100 grains	83 grains

It is to be remembered however, that the salicyl content of strontium salicylate is about four-fifths that of sodium salicylate based on the amount of available anion The mean effectual dose in rheumatic fever is seen to be 260 grains, which is slightly higher than the figure given for the same dose of sodium salicylate

The mean dose producing tinnitus, vomiting, delirium, etc, is in this series of little value owing to the limited number of cases, but it is quite obvious that such toxic symptoms readily occur

The same limitation also makes deductions as to antipyresis and diaphoresis of no value

The drug was easily given in all cases, and no more than the usual protest was made about the taste It is very sparingly soluble in water, so that no concentrated stock solution could be made for use in the wards, as is our custom with the sodium salicylate The powders are less convenient, therefore, to give accurately

CONCLUSIONS

From the data at hand we can conclude that

1 The mean toxic dose of strontium salicylate is the same as that for sodium salicylate

2 Strontium salicylate produces the same gastric and other toxic symptoms produced by any salicylate

3 It is no more effectual in relief of pain

4 It is not so convenient to give as are the more soluble salicylates

---

The Pupils—The value of the pupils in diagnosis has been greatly overestimated There are, in fact comparatively few conditions in which they yield us important diagnostic evidence for although they are very often abnormal, the abnormalities are seldom characteristic of any single pathologic condition and throw little light on the diagnosis—Richard C Cabot

---

PARALYSIS OF THE RECURRENT LARYNGEAL NERVE RESULTING FROM MITRAL STENOSIS *

JOSEPH ROSENTHAL, MD
Assistant Attending Physician to the Jewish Hospital
BROOKLYN

It is only recently that recurrent laryngeal paralysis has been known to be caused by mitral stenosis Oertner[1] in 1897 presented two cases of this condition Heretofore this etiology was unheard of One can judge how rare the syndrome is by the fact that in the literature there are only eleven cases confirmed by necropsy The mechanics of the paralysis are explained by the necropsy findings in selected reported cases The cases are two of Oertner's, one each of Hofbauer, Frischhauer, Kraus, Freystadtl and Stranz

In the first case of Oertner, the lumen of the left auricle was distended to the size of a man's fist The enlarged auricle in its filled state caused compression of the left bronchus, the recurrent laryngeal nerve, and the aortic arch At the point of compression, the nerve for about 2 mm was grayish, transparent and thinned out, and microscopically showed degeneration

In the second case of Oertner, the left auricle was similarly distended to about the size of a man's fist The aorta was of normal width The left recurrent laryngeal nerve was on the upper wall of the distended left auricle, and was compressed against the aorta The nerve at this point had degenerated to a thin band

From these two cases Oertner came to the conclusion that in certain cases of mitral stenosis the left auricle is so *dilated that the recurrent laryngeal nerve* is compressed against the aortic arch As a result the nerve degenerates and paralysis of the left vocal cord follows

The findings in Hofbauer's[2] case showed the left auricular appendage compressed between the pulmonary artery and the aorta, and the resulting compression caused degeneration of the recurrent laryngeal nerve As in Oertner's cases, the dilated left auricle was the direct cause of the paralysis

Frischhauer's[3] case showed that the markedly dilated left auricle did not directly press the nerve against the aorta, but only through the interposition of the pulmonary artery, degeneration and paralysis resulting

In Kraus'[4] case, the etiology was different marked dilatation of the right ventricle caused enlargement of the heart to such an extent as to alter the anatomic relations of the heart, pulmonary artery, ligamentum arteriosum and the aortic arch, the nerve was strangulated by the ligamentum arteriosum The nerve at this point appeared thin and grayish The left auricle, even though markedly dilated, was 4 cm from the point of compression The paralysis in this case followed compensation, while in the other case it followed decompensation

The ductus arteriosus can cause the paralysis in other ways than that described above This is seen in the case of von Schrötter,[5] in which the paralysis was caused by incarceration of the nerve between the aorta and the patent ductus The pulsations of the vessels caused the paralysis In this case there was also a slight mitral stenosis that played but a small part in the etiology That paralysis of the recurrent laryngeal nerve can result from a patent ductus arteriosus is affirmed by Gerhardt in his classic description of ductus arteriosus patency

---

* From the medical service of Dr Leon Louria.

[1] Oertner Wien klin Wchnschr 1897 p 753

[2] Hofbauer Wien klin Wchnschr., 1902 p 1065

[3] Frischhauer Wien klin Wchnschr 1905 p 1383

[4] Kraus Verhandl. d XIX Kongr f inn. Med p 608

[5] Von Schrotter H Ztschr f klin Med xliii p 160

The mechanics in Freystadtl and Stranz'[6] case was similar to that of Oertner's cases

Hofbauer[7] observed paralysis of the recurrent laryngeal in a case of slight mitral stenosis which did not come to necropsy, and that in certain positions the hoarseness would vary In lying on the right side or back the hoarseness was less than when lying on the left side or bending forward He explained this by the fact that in certain positions the nerve was compressed more than others Freystadtl and Stranz take exception to this view, because in the cases that came to necropsy the nerve and laryngeal muscles showed degeneration which was complete, mere change in position could not have produced the degeneration

As heretofore shown, paralysis of the recurrent laryngeal nerve can be caused in mitral stenosis by the direct pressure of the left auricle, or, indirectly, through the pressure of the pulmonary artery, and finally the changed position of the heart can cause the ligamentum arteriosum to strangulate the recurrent nerve As seen from the literature, a lesion of the mitral valve producing dilatation of the ventricle (mitral insufficiency) will not alone produce the condition, there must be associated with it such a lesion of the mitral valve as will produce rather a dilatation of the auricle (mitral stenosis)

Case 1—H F, a boy aged 4½ years, was admitted March 6, 1914, died Jan 6, 1915 The family history was negative

Past History—Chickenpox two years, measles one year, prior to admission, no complications

Present History—Six weeks previous to admission the child became ill, with malaise, fever, vomiting, pains all over body, more marked in the knee joints This persisted six days, since then he has been short of breath on slight exertion, with attacks of palpitation One month before admission the mother noticed that the child became hoarse

Physical Examination—Fairly well nourished, slight dyspnea, no cyanosis, skin and mucous membranes are pale, lymph glands slightly palpable, no pulsation in vessels of neck

Lungs Normal pulmonary resonance, breathing is exaggerated, especially on inspiration, a few subcrepitant rales at left base

Heart Right border at the right border of sternum, upper border at the second interspace, left border at mammary line, apex is visible and palpable in the sixth interspace 7 5 cm from the median line, a presystolic thrill is felt over the apex At the apex the sounds are replaced by murmurs, a soft blowing systolic transmitted to the axilla, and a presystolic murmur heard within the apex Over the fourth left interspace near the sternum there is a rough systolic murmur, a soft blowing systolic murmur is present over the aortic area, the second pulmonic sound is accentuated

Abdomen Negative, liver and spleen not felt

Extremities No clubbing, no edema

Urine Faint trace of albumin, no sugar, no casts

Blood Hemoglobin 70 per cent, red blood cells, 3,900,000, white blood cells, 5,900

Differential Count Polynuclears 60 per cent., lymphocytes 40 per cent

Roentgenogram taken March 7 showed the heart greatly enlarged, about 2½ fingers' breath to the right of the sternum, and the left border at its inferior point reaches just within the anterior axillary line

Laryngeal Examination Left abductor paralysis, left vocal cord drawn to median line, true and false cords pale, right cord moves normally

The condition of patient improved markedly under treatment He had a temperature as high as 101 F for the first two weeks, and after that between 98 and 100 The hoarseness remained unchanged He left the hospital in May, 1914 and felt well up to the early part of December, when he had a recurrence of his symptoms, and was readmitted to the hospital Dec 14, 1914 Laryngeal examination December 19 showed the same findings as before Despite active treatment he died Jan 6, 1915 Necropsy was not permitted

Case 2—A A, aged 27, bartender, was admitted May 20, 1915, died May 31, 1915 Family history negative

Past History—The patient does not recall any of the diseases of childhood Never had any of the acute infectious diseases About four years prior to admission the patient had difficulty in breathing, but had no precordial pain or palpitation This lasted three days, he then coughed up a little blood, after which he felt better In the following three years he had several similar attacks, but they were mild A year ago, however, he suffered a more severe attack that necessitated his confinement to bed for one week, his condition improved and continued so until two months before admission Good habits

Venereal Had repeated attacks of gonorrhea, the last one five years ago, no syphilis

Present History—Illness began about two months ago with dyspnea, cough, palpitation and precordial pain These symptoms continued and after treatment in a sanatorium for seventeen days he felt very much better During this time he coughed and spat up some blood About four weeks ago he went to Lakewood, N J, and while there was more active than advised to be After one week he went home where he remained for two weeks About three or four days before admission he became more dyspneic, and the symptoms became worse He developed swelling of the ankles the day before admission

Physical Examination—General condition poor, anemic, dyspneic and cyanotic, cyanosis especially marked in ears and mucous membranes, venous pulsations visible and palpable, arterial pulsations marked

Eyes Pupils equal and react to light and accommodation

Lungs Dulness, subcrepitant and crepitant rales, distant voice and breath sounds over both bases

Heart Right border 5 cm from midsternal line Left border, 15 cm from midsternal line Apex beat situated in sixth left intercostal space, somewhat diffuse At apex a presystolic thrill is palpable The sounds are variable in force, irregular in rhythm, and of poor muscular quality, over apex a presystolic murmur is heard, not transmitted, also a systolic murmur transmitted to the left axilla The second pulmonic sound is accentuated The second aortic is accompanied by a diastolic murmur transmitted along the left border of the sternum, and best heard on the fourth left interspace near the margin of the sternum

Pulses irregular, fair tension, equal, vessels moderately thickened

Abdomen Distended, otherwise negative

Liver Palpable about 10 cm below the costal margin tender, with transmitted pulsations

Spleen and kidneys not palpable

Edema over ankles, knee-jerks normal

Roentgenogram taken seven days after admission showed marked cardiac dilatation to the right and left The left ventricle and auricle were enlarged and the markings lost

Blood culture, sterile

Blood Counts	5/20	5/25
White blood cells	16,600	9,800
Lymphocytes	14 per cent	12 per cent
Polynuclears	86 per cent	88 per cent

Blood pressure 130 to 150

---

[6] Freystadtl, B, and Stranz, J Monatschr f Ohrenh, 1902, x, 557

[7] Hofbauer Wien klin Wchnschr, 1905, p 1385

Urine Acid, marked albumin, no sugar, many finely and coarsely granulated casts, occasional white blood cell Bile present in urine May 24 and thereafter

Patient was admitted in extreme stage of decompensation, was put on sedatives and seemed to improve a little, but on the fourth day he was markedly jaundiced, and two days later he became hoarse The larynx showed the left true vocal cord in a stationary position (abductor paralysis) The temperature ranged from 102 to 103 F and pulse 130 to 160, respirations 24 to 26 He was put on active stimulation with no response, and died May 31

In this case no necropsy was permitted so that the mechanics of the condition could not be determined

RADIAL PULSE DIFFERENCE AND LEFT RECURRENT NERVE PARALYSIS DUE TO MITRAL STENOSIS *

JOHN GUTTMAN, MD
Visiting Ophthalmologist Har Moriah and Beth David Hospitals Visiting Ophthalmologist and Aurist, New York Eye and Ear Clinic

AND

SELIAN NEUHOF, MD
Attending Physician Har Moriah Hospital Adjunct Attending Physician Lebanon Hospital

NEW YORK

The history and the result of the examination of our patient was as follows

J R., woman, aged 25, married two years with no children or pregnancies had a severe attack of inflammatory rheumatism thirteen years ago There were no cardiac symptoms until three years ago, at that time palpitation began During the last year, she has also become somewhat dyspneic Her hoarseness commenced six months ago Examination of the larynx showed that the left vocal cord was immovable and somewhat shortened and in the so-called cadaveric position, owing to recurrent paralysis The voice on phonation was indistinct and hoarse The examination of the cardiovascular system revealed the following There was a noticeable difference between the right and left radial arteries on palpation, particularly when the arms were extended above the head The systolic and diastolic blood pressures of the right brachial were respectively 110 and 80 mm of mercury of the left 82 and 70 mm of the right popliteal, 118 and 85 mm., of the left, 105 and 70 mm There was no perceptible difference in the carotid pulsations The pulse was regular, the rate 100 per minute There was vigorous visible precordial pulsation, a diastolic thrill was felt and a loud rumbling presystolic murmur was heard at the apex The aortal sounds were normal Over the pulmonary area there was a somewhat rough systolic murmur and an exceedingly accentuated snappy second sound, the sharp click of pulmonary valve closure was also evident on palpation A dry pericardial friction rub was heard over the lower sternum, three weeks later there was also evidence of a fresh pericarditis over the pulmonary area There was no systolic apical retraction Orthodiascopic examination (Fig 1) revealed a short aortal bulge (*A*), the outline of the aorta was apparently encroached on by the very much dilated pulmonary artery (*P A*) The left auricle (*L A*), though not enlarged in the tracing overlapped the pulmonary artery to some extent The left ventricle (*L V*) and the right side of the heart were also somewhat dilated The electrocardiogram (Fig 2) showed a negative R (S, according to Lewis) in Lead 3, presumed evidence of left ventricular preponderance,[1] and a notched, enlarged P in the first lead, when the latter is found in the second lead, it is sometimes regarded as evidence of auricular hypertrophy There was no edema The Wassermann examination of the blood was negative Summarizing the patient had left recurrent laryngeal paralysis differences in the pressure of the right and left radial and popliteal arteries, mitral stenosis, dry pericarditis, dilated pulmonary artery, an aorta somewhat dilated, and an enlarged left ventricle and left auricle

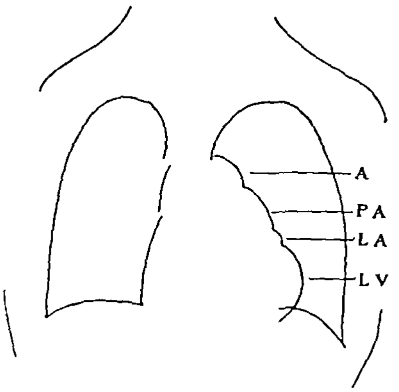


Fig 1 —Orthodiascopic tracing *A* aortal outline *P A* outline of pulmonary artery *L A* outline of left auricle *L V* outline of left ventricle

Ortner[2] in 1897 first described the connection between mitral stenosis and paralysis of the left recurrent nerve Since then, reports of thirty-two cases have been collected from the literature by Cuisset[3] up to 1912 The various theories held accountable for the paralysis may be recapitulated as follows

1 Ortner's[2] Theory The paralysis is due to pressure of the enlarged left auricle on the recurrent nerve

2 Kraus'[4] Theory The right ventricular dilatation present in mitral stenosis causes displacement of the heart to the right, with consequent dragging on the aortic ligament and arch and resultant stretching and paralysis of the nerve

3 Alexander's[5] Theory The pulmonary artery by its own enlargement, or indirectly by enlargement of the left auricle, is pressed against the nerve and aortal arch

4 The nerve may be compressed and caught between bands of pericardial and mediastinal adhesions

All these theories have had some necropsy support[8] Normally, the pulmonary artery is situated and divides immediately beneath the aortic arch, below the pulmonary artery is the left auricle It therefore seems improbable that the left auricle, even when extremely enlarged, can directly exert sufficient pressure to produce recurrent paralysis, unless it is jammed between or adherent to the pulmonary artery and aorta This happened in one case that came to necropsy[6] In another case,[7] the left auricle was the size of a small fist and was found pressing against the nerve From careful anatomic studies of frozen sections, Fetterolf and Norris[8] state that the effect of left auricle dilatation would be pressure of the left pulmonary artery against the aorta, and the left pulmonary vein against the pulmonary artery, thus forcing the latter against the aorta They believe that direct pressure alone of the enlarged left auricle can scarcely produce paralysis unless squeezed in between or adherent to the pulmonary artery and aorta They conclude that anything which will dilate or force upward the left auricle, the left pulmonary vein or left pulmonary artery will tend to produce paralysis, and that the latter must finally be caused by the nerve being "squeezed between the left pulmonary artery and aorta or aortic ligament" This conclusion bears out the common knowledge of the normal close juxtaposition of pulmonary artery and aorta A similar conclusion was reached by Frischauer[9] who, in a case at necropsy, found the nerve squeezed between the left pulmonary artery and aorta by the pressure of the dilated left auricle and pulmonary vein

---

* Presented at the Academy of Medicine Section on Laryngology and Rhinology May 25 1915 by Dr John Guttman

1 Lewis Clinical Electrocardiography
2 Ortner Wien klin Wchnschr 1897 No 33 p 763
3 Cuisset Theses de Paris 1912 1913
4 Kraus Verhandl d XIX Cong f inn Med 1900 p 607
5 Alexander Berl klin Wchnschhr 1904 p 135
6 Herrick Chicago Med. Recorder 1898
7 Osler Arch d mal du cœur 1909 p 74
8 Fetterolf and Norris Am Jour Med Sc 1911 cxii 625

In our case, there was no evidence of abnormal right ventricular enlargement, the heart was dilated to the left, as revealed by roentgenoscopy and corroborated by the electrocardiogram These facts would tend to discredit Kraus' theory as to the etiology The orthodiascopic findings and physical signs over the pulmonary artery allow us to conclude that the recurrent paralysis was due to dilatation and pressure of the latter, whether or not the left auricle was a factor in pushing the pulmonary artery against the aorta it is impossible to state Lian and Marcorelles[10] insist on the presence of old thrombosis of the left auricle or of mediastinitis as contributory causes Pericarditis was present in our case, it was at first confined to the precordial area over the lower sternum, and later involved the pulmonary area This may have been an added factor in binding down the dilated pulmonary artery

A unique feature was the presence of a marked difference in the two brachial blood pressures and in the two radial pulses, this in conjunction with laryngeal paralysis formed a striking resemblance to the clinical syndrome of aortic aneurysm Lian and Marcorelles[10] mentioned that Popoff had seen or described these complications in mitral stenosis, but we have been unable to find this reference in a thorough search of the entire literature Our opinion is that the dilated pulmonary artery was probably wedged in with sufficient force under the aortal arch and especially opposite the origin of the left subclavian artery to cause interference with the circulation of the latter and consequent difference between the two sides in the brachial blood pressures and in the radial arteries To a lesser extent, the blood supply in the left leg was similarly interfered with by encroachment on the aortic lumen

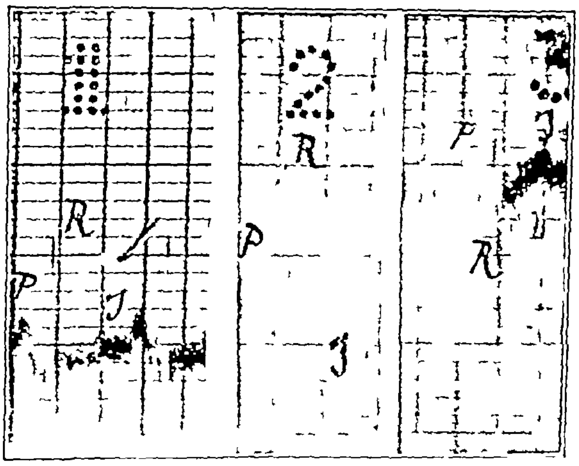


Fig 2—In the electrocardiogram, *P* indicates the *auricular complex*, *R T* the ventricular complex, 1 2 and 3 refer to the different leads, the vertical lines measure one fifth second the auricular complex *P* is *enlarged and notched in the first lead The direction* of *R* is negative in Lead 3

---

9 Frischauer Wien klin Wchnschr, 1905 xviii, 1383
10 Lian and Marcorelles Arch d mal du cœur, 1913, p 561

Treatment of Ringworm of Scalp and Body—Dr Eugene G Mattison, Pasadena, Calif, writes In The Journal, Nov 13, 1915, there is an article on the prevention and treatment of ringworm and favus of the scalp There is a very simple and efficacious method of treating ringworm of the body as well as of the scalp which a number of others and myself have used here for a number of months First, the infected area is cleaned up If it is of the scalp it must of course be shaved It is then cleaned with ether, this is followed by an application of 50 per cent tincture of iodin, and then the infected areas are frozen with ethylchlorid One treatment is sufficient for body ringworm, two or three for ringworm of the scalp In favus I have never had the opportunity to try this treatment, as those cases are a rarity with us

---

DIAGNOSTIC METHODS AND PATHOLOGIC CONSTANTS IN IDIOPATHIC EPILEPSY

SECOND REPORT *

CHARLES A L REED, M D
CINCINNATI

That constipation due to mechanical interference with the fecal current is an early if not an initial cause of epilepsy was set forth in my preliminary report[1] I then announced my intention to submit supplementary reports based on further experience It has occurred to me that my next report, the present one, ought logically to deal with, first, methods of diagnosis, next, the connection of cause and effect between the constipation and the epilepsy, third, the determination, if possible, of certain pathologic constants of the disease, and, finally, if possible to find the essential etiologic factor and thus to indicate the logical basis for comprehensive yet specifically directed treatment

DISCLAIMER AND PLEA

In submitting this report, care is taken to make clear the fact that data for my generalizations are derived entirely from a study of my own cases These records now number over 700, of which only 168 patients have been submitted to operative treatment I ought to add that, during the last ten years, I have had occasion to operate also for intestinal conditions on over 300 nonepileptic constipated patients I realize that these epileptics have been referred to me by their family physicians, first, because my former report dealt with constipation as a cause of epilepsy, and next, because the patients thus referred have had both constipation and epilepsy In this way, possibly, it has come about that my epileptic clientele has been uniformly of one class In other words, it would seem that the cases that have come to me may be grouped under the old and absurd title of "idiopathic epilepsy" I do not assume, therefore, that my experience has covered the entire field of epilepsy At the same time I cannot ignore the significance of the constant relationship of conditions that I have encountered These facts furnish ample reason why my observations should go to the profession as a basis for the careful investigation of epileptics along these new and, I trust, more fruitful lines

In outlining what seems to me to be the real syndrome of epilepsy, as least of so-called idiopathic epilepsy, I ask, specifically, that others interested in the subject and with large clinical opportunities for its elucidation may cooperate with me to the extent of applying the diagnostic methods that comprise the basis of this report, with the object of determining the constancy or inconstancy of conditions which I shall describe, and the validity or invalidity of conclusions which, it would seem, are justified by my really exceptional experience Only in this way may it be possible to dissipate the darkness and bring light and hope to the most pathetic class of sufferers that it has ever been my misfortune to encounter

---

* Amplified from remarks before the Seventh Pan American Medical Congress San Francisco, June 19 1915 and read before the Columbus (Ohio) Academy of Medicine, Sept 27, 1915

* Owing to lack of space, this article is abbreviated in The Journal The complete article appears in the author's reprints A copy of the latter may be obtained on request

[1] Reed, Charles A L The Probable Cause and Logical Treatment of Epilepsy, a Preliminary Report, The Journal A M A March 27 1915, p 1047 Constipation and Epilepsy, Lancet Clinic, July 25, 1914

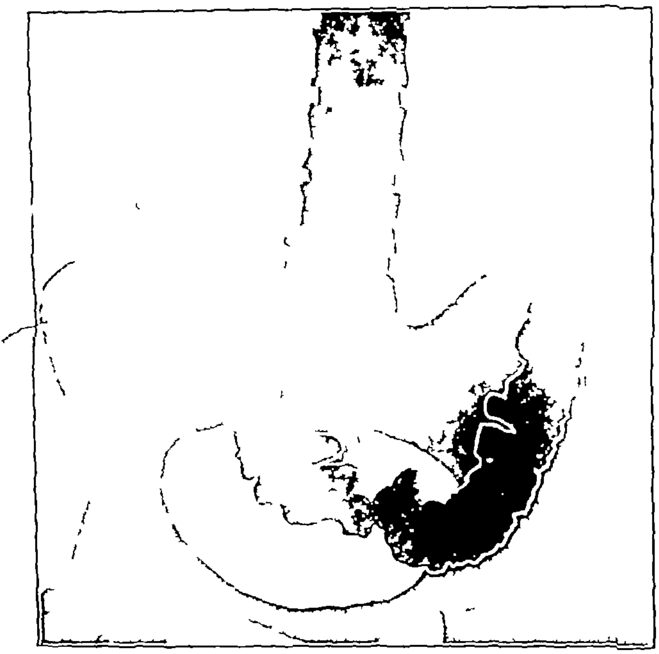


Fig 1—Masked stasis showing the barium in the transverse colon forty hours after ingestion in a patient who had regular action of the bowels once and sometimes twice every day The last of the barium in this case passed eighty two hours after ingestion The roentgenogram shows the causative ptosis with retardative angulation

THE GENERAL HISTORY OF THE CASE

The routine investigation of the case naturally begins with details concerning sex and age Occupation is important as showing a probable cause of visceral states, to which I shall refer at greater length Accidents and injuries have a similar significance Heredity is interesting as showing that less than 2 per cent give history of parental epilepsy In other words, direct heredity may be disregarded as a cause and that, too, for reasons which shall become obvious The general nutrition will usually be found from fair to good, although in certain cases there is a history of loss of flesh The appetite is generally excessive, and is ordinarily much greater than the nutritional results I have, however, had a few cases of hypernutrition with marked obesity The temperature will be subnormal more frequently than otherwise, often registering as low as 97 F , in rare cases as low as 96 When the temperature is at 97 or lower, the patient may be considered as in the imminence of an attack The blood pressure is generally low, ranging from 80 to 110, and is more frequently below than above the latter figure

The pulse rate, in the absence of disease of the heart or blood vessels, generally correlates with the temperature and blood pressure The secretions are, of course, investigated by methods and with results which I shall present *in detail in connection with special clinical features* of these cases

SPECIAL PHYSICAL EXPLORATION

After having ascertained these general facts, it is necessary to proceed with a more special physical exploration The cranium is examined for possible malformations, lack of symmetry, and depressed fractures The scalp is examined for scars that may be significant of deeper injury The eyes are taken into consideration for possible motor or visual defects, which some observers have thought to have a causal relationship to epilepsy The teeth, gums, tonsils, fauces and sinuses are inspected The ears are at least inquired about, particularly as to whether or not they are catarrhal, and as to the existence of tinnitus The neck is gone over, and the condition of the thyroid and of the cervical lymphatics is determined The lungs and heart are examined The object is, of course, to determine the possible existence of foci of infection or of "centers of irritation," with the result that such conditions are found in about the same ratio as in nonepileptics In other words, their inconstancy, as well as their order of occurrence, when they do exist, would seem to exclude them as definite etiologic factors Then the lungs and heart are examined The abdomen is gone over by methods of which I shall speak in detail The pelvis is carefully examined to determine uterine, ovarian, cystic and prostatic conditions according to the sex of the patient

Then the usual neurologic exploration is made with reference to sensation, coordination, the reflexes and muscular power The whole examination is concluded with a judgment, to which the entire investigation has conduced, as to the mental state of the patient and as to whether any apparent mental deterioration is transient or permanent, whether it is congenital or due to secondary changes, or whether it is the consequence of drug habituation

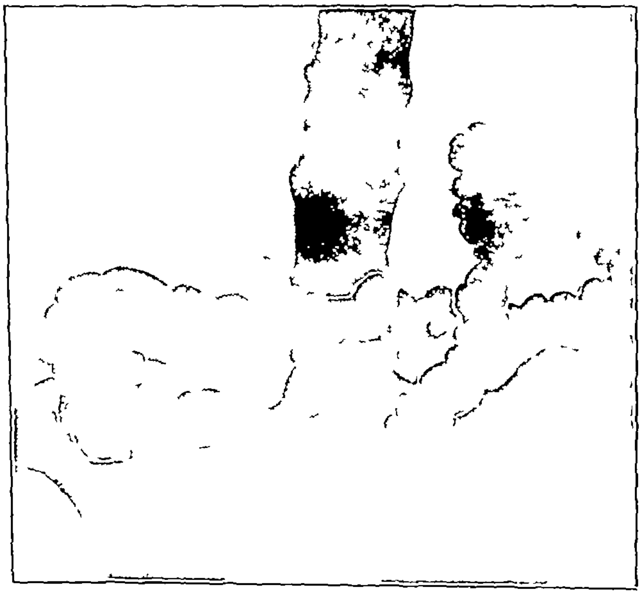


Fig 2—Barium in the colon ninety eight hours after ingestion in an epileptic with regular movement of the bowels once and sometimes twice every day

In reviewing my observations in now a large number of these cases, I may say that, with the exception of conditions within the abdomen, the temperature range and the blood pressure, there is nothing revealed by this routine examination that is constant, and anything that is not constant is not characteristic In other words, we are left just where we began, with no interpretation of such associated phenomena as are uniformly present, with no conception of the relation of such phenomena to underlying physical states, in short, we are left simply with the knowledge that our patient has fits, or is threatened with fits, or with something like fits

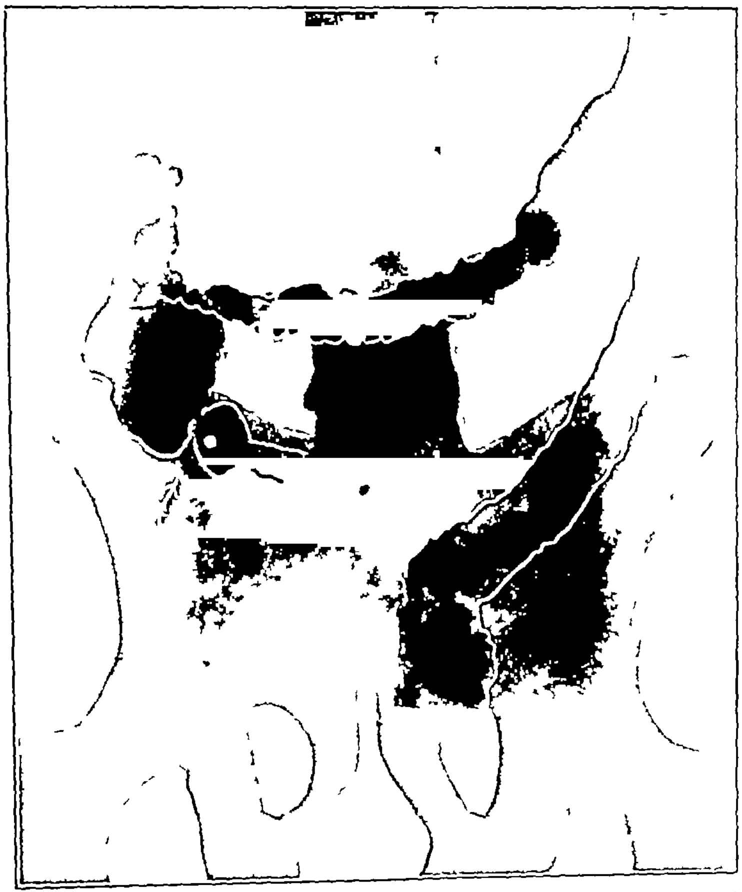


Fig 3—Case of ileac stasis (indicated by arrow) associated with mobile cecum and retardative angulations, the roentgenogram being taken fifty two hours after ingestion

CONSTIPATION AND EPILEPSY

In view of the unsatisfactory results thus far realized, it would seem the part of wisdom to follow the clinical trail in the further prosecution of our inquiries This trail begins, of course, with the epileptic phenomena We strike it again the moment we begin to inquire into associated conditions, the most obtrusive and persistent of which relate to the excretory and eliminative functions The first of these functions to be brought to our attention is that of the intestines The patient, generally without waiting to be asked, complains of constipation He says that he was constipated possibly from infancy, or since he had a fall, or a strain, or a blow on the abdomen, that his constipation began before his epilepsy, that his epilepsy is worse when his constipation is worse, that he takes physic continually, that he has constantly to increase its dose, and that he is worse as soon as he fails to "dynamite" his bowels As a matter of actual observation, constipation exists in practically 100 per cent of the epileptics that come to me I have seen but few apparent exceptions, and they were apparent and not real In one case there was hyperperistalsis, induced by conditions within the duodenum, the transverse colon and the sigmoid, but with demonstrable retardation in the terminal ileum The other apparent exceptions were simply cases of masked stasis An example of this kind was that of a man who assured me that his bowels moved normally once and sometimes twice every day The Roentgen ray and a barium meal revealed a transit of eighty-two hours In other words, in these cases of masked stasis, the "regular" daily movement is simply one section of a slowly moving procession that is from several hours to several days behind schedule time

THE PHYSICAL CAUSE OF CONSTIPATION IN EPILEPTICS

If, as we find, constipation is a constant feature of these cases, it is obviously of first importance that its cause shall be ascertained In this connection, it should be remembered that this constipation, while worse at some times than at others, is in no sense an acute or transient condition, but that, on the contrary, it has persisted for periods varying from a year to forty years, or even longer It has persisted, too, in spite of the best of treatment addressed to sluggishness or so-called atony of the intestines The question of mere functional inefficiency, or of atony, except as in some measure the necessary result of the long use of cathartics, or of injections, or of secondary defective innervation, or of hyperabsorption demanded by tissue thirst, all primarily induced by conditions that I shall describe, is not, therefore, to be taken into consideration

THE ABDOMEN IN EPILEPTICS

These patients may or may not tell of recurrent pains which may or may not have been severe, located in one or the other or in all four quadrants of the abdomen This pain, possibly only a discomfort, will generally have been of the come-and-go variety, but persists in returning over either the cecum, the hepatic flexure, the splenic flexure or the sigmoid When the patient stands up with the abdomen exposed, we observe a flattening on either side, just outside the recti muscles, at about the level of the linea semilunaris The abdomen is either actually pendulous, or, it would seem, is trying to be pendulous, as shown by

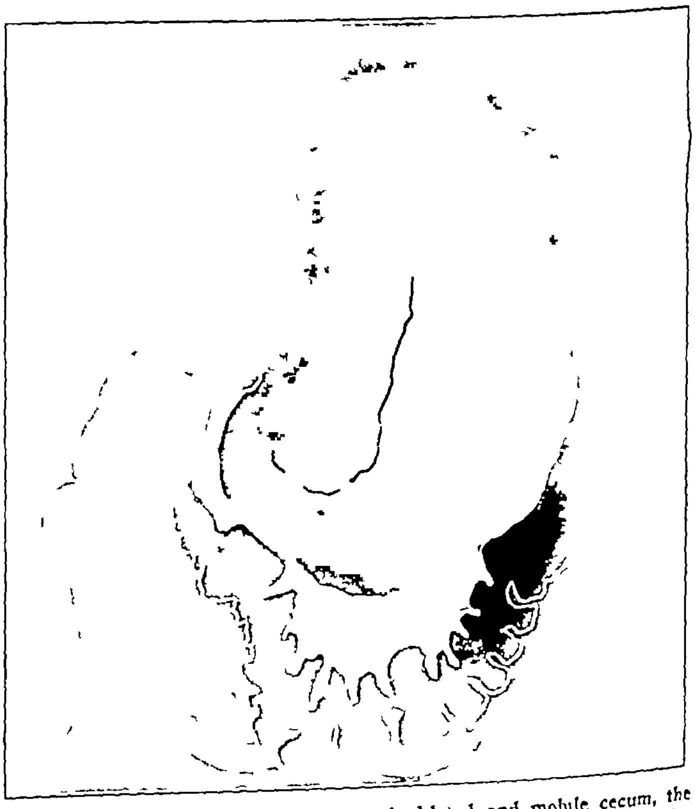


Fig 4—Case of gastrocoloptosis with dilated and mobile cecum, the barium here seen in the transverse colon having been ingested seventy eight hours previously That in the stomach was ingested for purposes of demonstration immediately before the roentgenogram was taken

the fact that palmar palpation reveals a more or less relaxed abdominal wall made tense by internal pressure or weight With the patient still standing, percussion reveals the complete absence of gastric and intestinal resonance in the upper zone of the abdomen, the few exceptions to this rule being generally explainable by the presence of abnormal volumes of gas in some part of the tract On the other hand, the cecal note can generally be heard low down, often indeed as low as Poupart's ligament The colonic note may or may not be elicited, but when it is, it is always below the umbilicus, often indeed as low as the pubes The gastric note is to the left of the umbilicus and sometimes far below the crest of the left ileum

If, now, the patient is placed in the Trendelenburg position, the loci of these notes will be changed respectively about as follows the cecal note will be at or near the crest of the ileum, the hepatic flexure note will be at the right costal margin, the gastric note will be near the ensiform — all approximately normal in position The lower zone and especially the left lower quadrant will now be free from resonance If this restitution of the organs to approximately normal position is not effected by the change in position, the fact may be indicative of adhesions, or of massive redundancies, or of overdistention from either gas or barium The findings as indicated are, however, sufficient of themselves to justify the diagnosis of displacement of the stomach and large bowel, or, in the absence of the stomach sign, of displacement of the cecum and colon, or, possibly, with complications at the sigmoid In any event, a strong presumptive diagnosis of fecal stasis due to mechanical conditions within the intestines may be based on this examination alone, when conducted by one who has become familiar with the technic and whose ear has been educated to the sounds

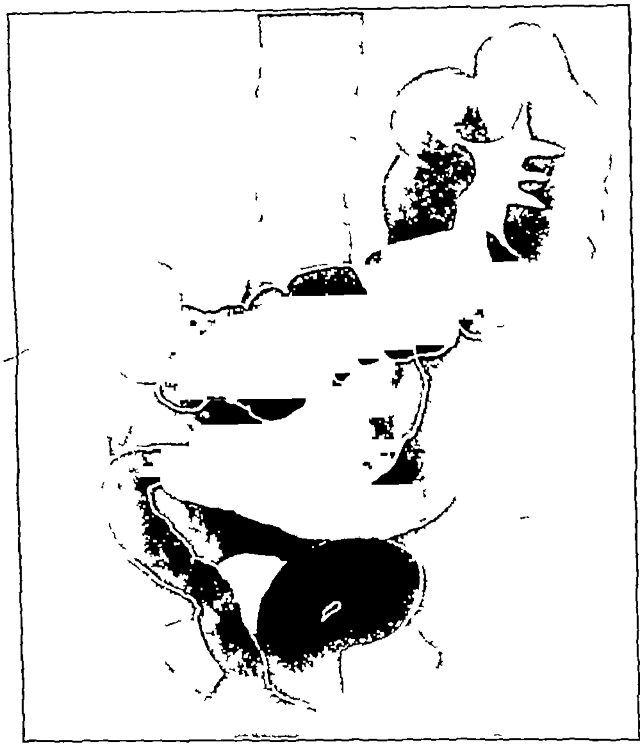


Fig 5 —A strikingly variant type of colon with large sigmoidal loop, the former being the obvious mechanical cause of stasis as demonstrated in Figure 2

ROENTGEN FINDINGS IN THE ABDOMEN OF EPILEPTICS

Although this physical examination of the abdomen may satisfy one that the stomach or the intestines or both are in malposition, and that this malposition is responsible for the functional disturbance, I feel that it is never fair, either to the patient or to myself, not to subject the case to every method of accuracy and precision in diagnosis In accordance with this rule, I look on a Roentgen examination in these cases as essential not only for purposes of record as to conditions already obvious — and my cases with operation are all thus of record — but also to determine conditions not otherwise ascertainable, and, finally, to serve as a guide in any surgical procedure that may be undertaken for their relief I prefer to begin this examination by giving a barium meal, preferably supper, and observing the transit thereafter at intervals varying from twelve to twenty-four hours At the final examination, with the patient in the upright position, some barium may be taken to show the position of the stomach When there is any suspicion attaching to stomach clearance, the earlier observations should be made at shorter intervals When the transit has been accomplished and the observations duly made and recorded, the colon is emptied either by a brisk laxative or a high enema, after which it should be slowly filled to the cecum with a barium enema Pictures should then be made with the patient in both the erect and Trendelenburg postures This method of examination, following the physical examination already described and confirmed by subsequent surgical exploration of the abdomen, has brought me the surprising information that, with the rare exceptions previously noted, some form of mechanical retardation of the fecal current exists in 100 per cent of the epileptics that have come under my observation

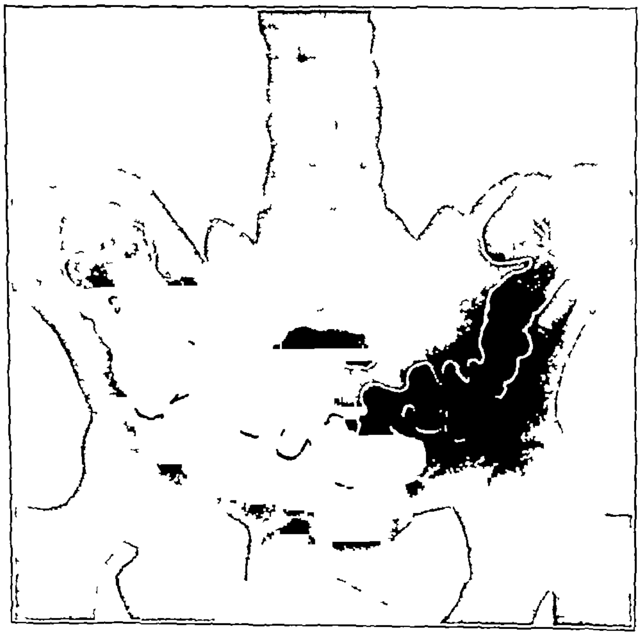


Fig 6 —Extreme ptosis of the colon and cecum with stasis in both the large intestine and the ileum sixty hours after ingestion

I have said that some form of mechanical retardation exists in every case The details, however, are distinctly variable Space here permits me to mention only the chief conditions that are thus encountered, namely, ptosis of the colon with retardative angulations, large, flabby and mobile cecum, dilated ascending colon, atrophied transverse colon, redundancy of the *transverse colon*, retardative angulation of the splenic flexure, ileocecal insufficiency, retardative angulation with or without adhesion at or near the terminal ileum, redundancy with or without adhesions of the sigmoid, and, occasionally, marked patulousness with or without malposition of the vermiform appendix The transit studies show retardation at either one of several of the various points which I have just enumerated The stasis thus shown may vary from twenty-four hours to a week or more This may be true even in the cases of masked stasis, by which I mean the cases of regularity of bowel action with retardation of bowel content, of which I have already spoken In this connection, it should be urged that interpretation of the plates or of fluoroscopic demonstrations should be attempted only by persons who are conversant not only with such demonstrations, but also with their actual meaning, as shown by experience in subsequent exploratory operations In no instance should the opinion of Roentgen operators who are not physicians be accepted without competent professional confirmation

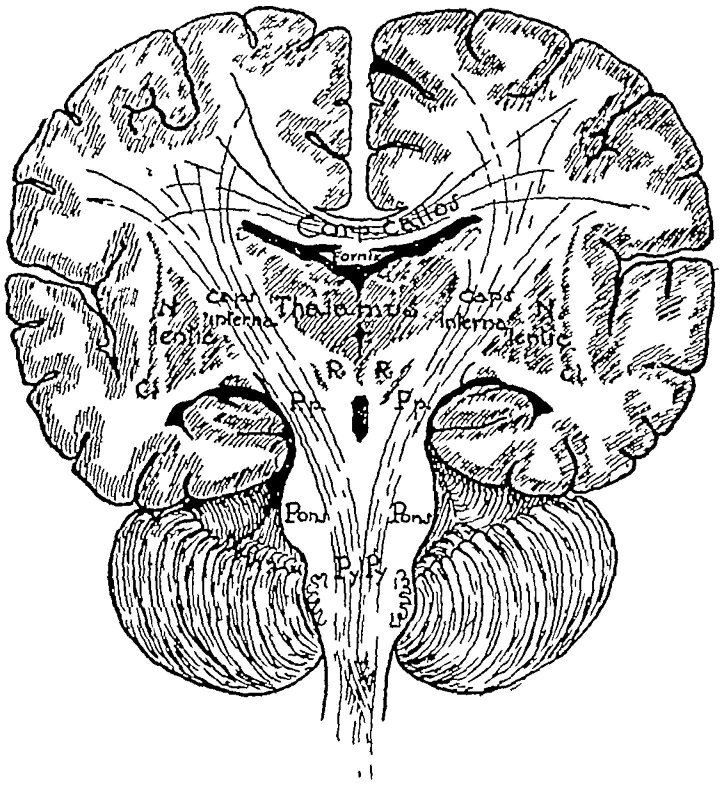


Fig 7—*The gateway of the brain or the internal capsule, a frontal section of which is here made to show the course of the long conduction cables or fiber tracts, and the continuation of the internal capsule into the Pes peduncle (*Pp*), *Cl* is the claustrum, *R* the nucleus ruber, *Py*, the pyramidal tract (After Villiger, Emil Brain and Spinal Cord, translated by G A Piersol, *Philadelphia, J B Lippincott Company*, 1912, p 62)

THE TOXEMIA OF EPILEPSY

Clinical demonstrations thus establish the fact that in epilepsy there exists a mechanical distortion of the alimentary canal and an always present and persistent retardation of the fecal current That this retardation is mechanical rather than either "atonic" or "reflex" is amply proved by the prompt disappearance of the constipation and its resultant symptoms in the great majority of cases after correction of the mechanical defect This point settled, we need now to discuss the next equally demonstrable effects of the constipation Thus, constipation necessarily implies that the watery element has largely disappeared from the intestinal content It can have gone in only one direction, and that is through the absorbents into the general circulation It has also necessarily carried with it all substances which it has held in solution These embrace a certain residuum of food elements, certain secondary products of ordinary chemical change in the food elements, certain abnormal fermentative products and, what is clinically even more important, certain toxins of bacterial origin (decomposition) Probably the most important because the most toxic single element thus elaborated in the ileum and absorbed either from the ileum or the colon, or both, is betaiminazo, shown by Mutch to have its origin in the small intestine in cases of ileac stasis studied by him at Guy's Hospital In addition to the foregoing, the absorbent current carries with it back into the system certain secreted products from the liver, pancreas and the gastro-intestinal glands, embracing even the saliva It is not demonstrated that, under normal conditions, normal bacteria of the intestines ever find their way thence into the circulation, but, as I shall show, it does carry bacteria into the circulation under abnormal conditions

With this understanding of what, in part at least, must necessarily take place in the presence of intestinal stasis and which must take place *in degree relative to the persistence and duration of the stasis,* we are prepared properly to interpret the symptoms which we next encounter As I have previously pointed out,[1] epileptics under my observation have a low mean average of temperature (97 2) with a tendency to vacillate between 96 and normal, as determined by observations extending over a period varying from a week to ten days, or longer in each case When, as rarely occurs, the temperature goes to 100 or a trifle higher, the fact implies an intercurrent low grade infection There is a tendency to cold feet and cold hands Occasionally, there is a cold, clammy perspiration of the forehead and extremities, although, for the most part, these patients sweat but little, if any, under circumstances when they ought to sweat When perspiration is forced, it is generally acid in reaction to litmus, smells sour and, at the time of a seizure, becomes peculiarly offensive The tendency of these patients to hebetude and mental depression is a feature that they at times possess, always in kind and sometimes in degree, with the victims of the more generally recognized special toxemias associated with the acute infections The therapeutic test of active elimination, especially by cathartics and by forced sweating, with resulting temporary amelioration of the symptoms, has a distinct diagnostic value In short, the general clinical picture presented by these cases, if carefully studied, will impress the practitioner as being closely analogous to one that he has long since learned to recognize as that of a low grade infection with associated toxemia

THE CHRONIC ACIDOSIS OF EPILEPSY

Our next question concerns the inevitable result of the toxemia Here again our detection and interpretation of symptoms may well be based on accepted physiologic concepts The first and most fundamental of these concepts is that the normal integrity of the tissues depends on the normal oxygen-carrying power of the blood The next and equally important concept is that an inhibited supply of oxygen to the tissues results in the formation of various acid products within the tissues As there is a wide range between a normal supply of oxygen to the tissues and a supply so inhibited that life can merely be sustained, so must there be a correspondingly wide range in the degree of resulting acid formation within the tissues It is also equally axiomatic in this, as in other vital processes, that the persistence of the effect is relative to the persistence of the cause It is likewise axiomatic that, if the resulting products of a vital process are not disposed of as rapidly as they are formed, they necessarily become cumulative and in that sense progressive It is known, too, that toxins by direct action on the tissues, themselves tend to form acid within the tissues, and thereby augment the development and persistence of acidosis We know, furthermore, that certain toxins seem to have a selective action on certain tissues and that, as a result, a more or less focalized acidosis may exist in such tissues, even in the presence of a general systemic acidosis

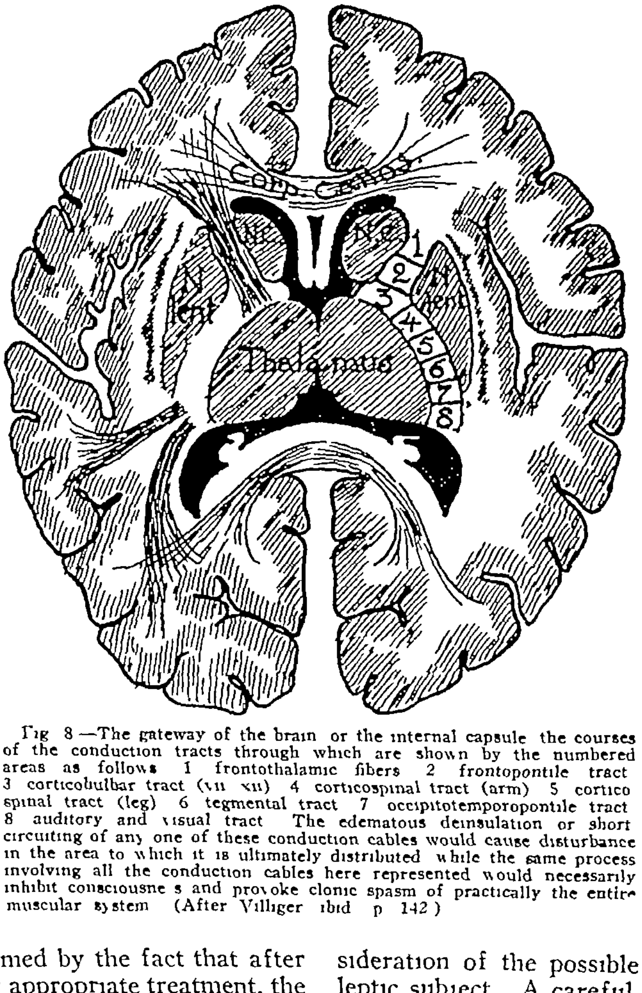


Fig 8 —The gateway of the brain or the internal capsule the courses of the conduction tracts through which are shown by the numbered areas as follows 1 frontothalamic fibers 2 frontopontile tract 3 corticobulbar tract (vii xii) 4 corticospinal tract (arm) 5 cortico spinal tract (leg) 6 tegmental tract 7 occipitotemporopontile tract 8 auditory and visual tract The edematous deinsulation or short circuiting of any one of these conduction cables would cause disturbance in the area to which it is ultimately distributed while the same process involving all the conduction cables here represented would necessarily inhibit consciousness and provoke clonic spasm of practically the entire muscular system (After Villiger ibid p 142)

Turning now to the case in hand, we find that the toxemia of epilepsy, like all other toxemias, diminishes the oxygen-carrying power of the blood It must, therefore, in that way as well as by direct action of the infection itself, not only favor, but inevitably cause the development of acid in the tissues The evidence of this process, which, be it remembered, takes place in the tissues and not in the blood current, much less in the secretory glands, is, however, to be found in the high acid index of various secretions The saliva, normally alkaline, is acid in exactly 100 per cent of the epileptics that come under my observation, the findings in each case being based on frequent litmus reactions during a series of days To avoid error, care is taken to cleanse the mouth and to test the saliva in situ as it flows from the sublingual glands The value of this index is confirmed by the fact that after deacidation of the system by appropriate treatment, the reaction of saliva to litmus, even on the tongue and without the precautions mentioned, becomes consistently alkaline The urine, as determined by litmus, methyl red or other indicators, also has a persistently high acid index with but slight vacillations under the influence of diet or medication The perspiration, where it can be provoked is likewise acid Hyperacidity of the stomach is also a frequent but not constant complaint and the siphoned contents of the stomach often yield positive findings as to an excess of hydrochloric acid

FOCALIZED EDEMA AND THE EPILEPTIC SEIZURE

Our discussion needs next to consider the consequences of acid intoxication Here, again, we may profitably pause to examine a few fundamental facts and thus possibly revise a few of our earlier concepts Thus, the epoch-marking researches of Martin H Fischer at the University of Cincinnati have shown that ultimate pathology, at least in many disease processes, must be found in changes in the colloids constituting the tissues We now know that cells, cell walls, nuclei, nucleoli, capillaries and perivascular spaces, while of unquestioned importance as structure units in gross pathologic processes, were, together with the older conceptions of circulatory pressure, transudation, infiltration and osmosis, stumbling blocks in the way of comprehending many of the ultimate tissue changes incident to disease Thus, we now know that acids developed in the tissues as a result of defective oxidation, when sufficiently developed in quantity, have a tendency to attract water (hydration) We now also know that, under such circumstances, the colloids simply suck up the water, just as do the ultimate atoms of starch, or of glue, subject only to such modifications in degree but not in kind as may be determined by the density and other properties of the tissues involved This is edema It may and does involve the colloids of such structures as the capillary walls, their surrounding connective tissue, cell walls, their protoplasmic contents, nerve fibers or axons and their investment membrane, in short, the given area, the area of focalized acidosis, the area in which the acid formation has gone to the extent necessary to incite this hydrating action, may become water-soaked just as the general system becomes water-soaked, for instance, in the presence of the general acidosis of eclampsia

This brings us to a consideration of the possible acidosis edema of our epileptic subject A careful survey will doubtless fail to give any external manifestation of the process, although certain of these subjects have a tendency to swelling of the legs when they are long on their feet, and to puffiness about the eyes on arising Many of them complain of a sense of fulness stopping short of actual pain in the head, while others, comparatively few, have severe headaches

These symptoms, as well as the epileptic seizures themselves, whatever their grade of intensity, bring us to a consideration of the brain itself as the probable seat of the edema

We recognize that the brain is made up of cells and fibers or axons, that each cell is in a sense a storage battery, that each axon is a conductor or a wire connecting with one of these batteries, that each wire or axon is able to act as a conductor only by virtue of its perfect insulation, and, finally, that these axons or wires are arranged in the brain in the form of bundles or cables, known as conduction paths. These conduction paths or striae or cables converge into the callosum, the thalamus, the pons, the corpus striatum, or, more specifically, the internal capsule which is the gateway through which pass the larger number of convergent tracts. The mechanism is rather aptly illustrated, practically paralleled, by an intercommunicating dictograph, which I happen to have in my office. The master instrument, connected with a storage battery, is on my desk and is in turn connected with other instruments located variously in the laboratories, consultation rooms and secretary's desks of the suite. The connecting wires, about twenty in number, each carefully insulated, are bundled together into a single cable. If, now, I drop this cable into some acid and then into water, or into water alone and leave it there until it is soaked through, I shall have destroyed the insulation, and I shall have done it by establishing a condition of edema. If, then, with the wires thus short-circuited and cross-circuited, I try to call up any one room, I shall simply ring up all the rooms without being able to establish intelligent communication between any of the terminal instruments and myself; in other words, I shall have provoked a sort of electric convulsion with complete isolation of myself as the center of consciousness. This is obviously what, in effect, happens in an epileptic seizure. The subcortical location of this evanescent lesion seems to be in harmony with the findings of Maxwell, who has demonstrated that convulsions in animals are excited by disturbance of the conduction paths rather than of the cortex.

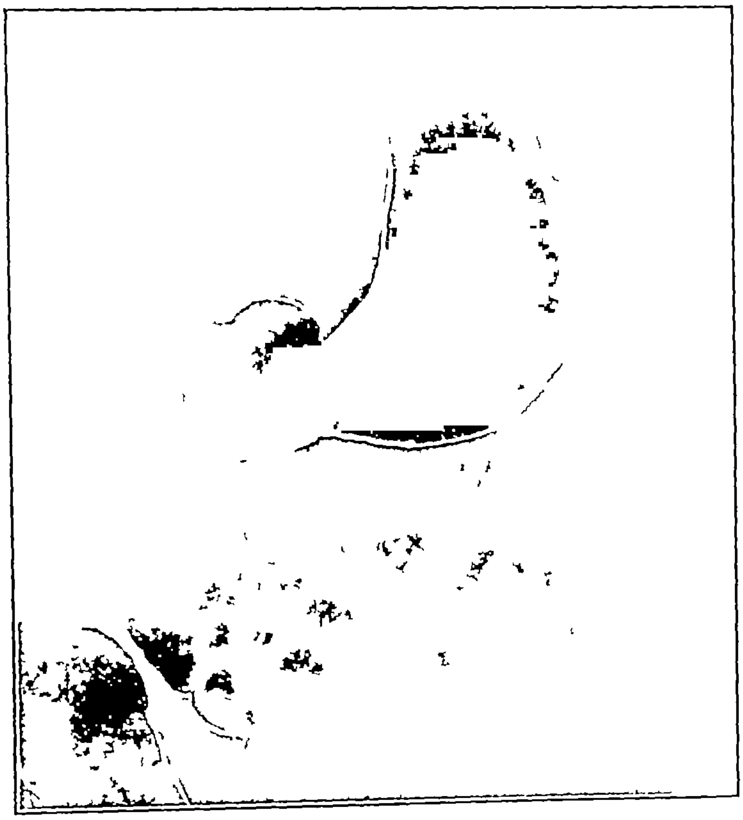


Fig. 9.—Case of tractional constriction with stasis in the duodenum due to ptosis of the colon and associated with ileac stasis as indicated by the flocculi in the central field.

THE UNITY OF EPILEPTIC PHENOMENA

We can now, in the light of this analogy, understand the phenomena of an epileptic seizure, slight or severe, by the existence of an acidosis edema, slight or severe, involving the conduction paths in the brain. We can understand the various auras, when they exist, by the deinsulating process. We can understand the involvement of various specialized fibers or axons to the exclusion of other specialized fibers or axons in this deinsulating process. We can understand the involvement of special muscles or groups of muscles in certain cases of so-called "partial epilepsies," by the more exclusive involvement of their axons in the edematous process. We can understand the short duration of the attacks by the speedy exhaustion of energy in the cells. We can understand why these patients, after an attack, must sleep as they do sleep, thus to recharge the emptied cells. And, finally, we can understand that the edema in the conduction paths is, for the time being, dissipated by the nervous explosion, or succession of explosions, just as the evanescent edema of the mucous membrane of the nose is dissipated by a sneeze, or a succession of sneezes which are, in fact, but another form of nerve explosion. From these considerations, it would seem that the epileptic phenomena are themselves the diagnostic criteria, the pathognomonic symptoms of the focalized acidosis edema for which we are searching, and furthermore, that they are one in essence and in kind. Here, then, ends our diagnostic inquiry, for here we have completed the circle, here we have come to the end of the clinical trail.

OTHER PATHOLOGIC CONSTANTS OF EPILEPSY

In the course of my surgical exploration of the abdomen in epileptics, I have found that enlargement and induration of the retroperitoneal lymphatics, especially retrocecal lymphatics, exists in 100 per cent of cases (Figs. 11 and 13). This is ordinarily associated with obvious hypertrophy of the solitary glands in all cases in which I have had occasion to make resection of the ileum (Fig. 12). A frequently pronounced although less constant, obvious lesion is hypertrophy with resulting hyperactivity (catarrh) of the mucous follicles of the colon, giving rise to mucous colitis. In

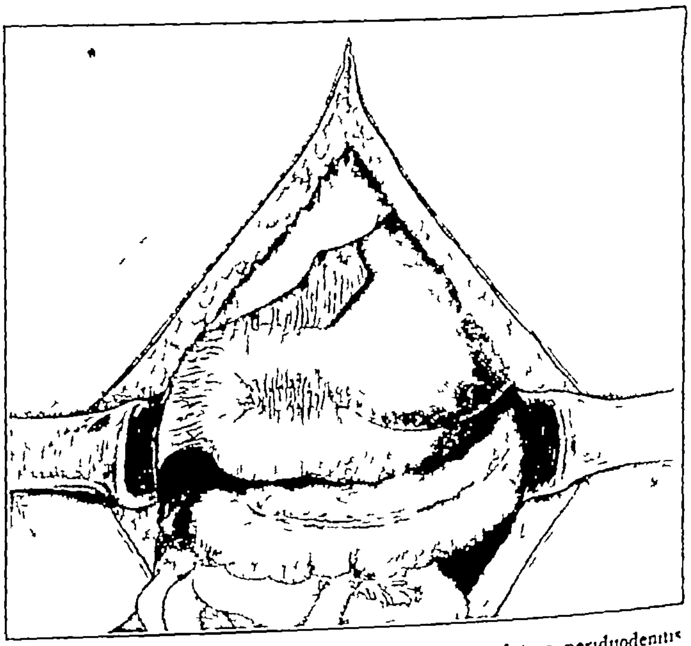


Fig. 10.—Dilatation of the duodenum with exudative periduodenitis. The dilatation is generally much more pronounced than is shown in this case.

every case in which I have had occasion to explore the upper zone of the abdomen in epileptics, I have found dilatation of the duodenum, ordinarily with resulting inflammatory exudate (Fig 10) In certain cases it would seem that traction by the ptosic colon produces obstructive constriction of the duodenum, as shown in a roentgenogram kindly furnished me by Dr Garrett of Buffalo (Fig 9)

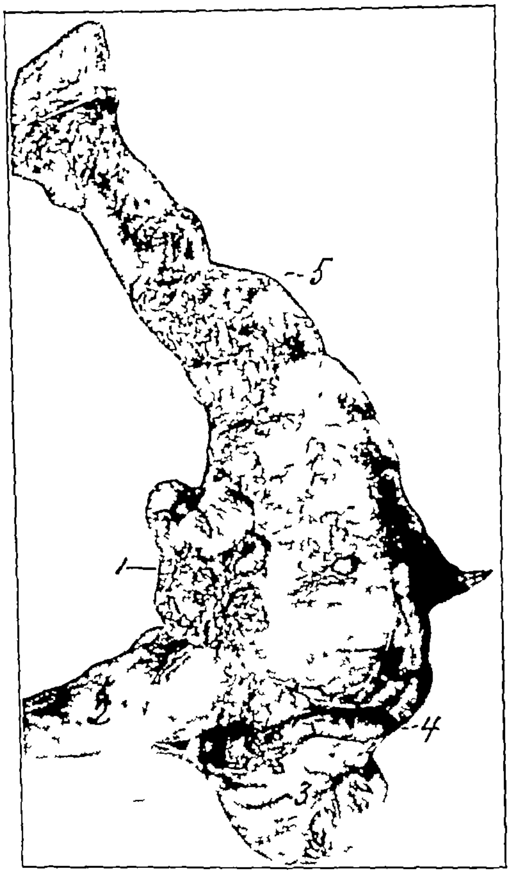


Fig 11—Part of specimen removed from an epileptic child of 11 showing 1 enlarged and indurated lymphatics beneath the cecum (a much larger mass having been left beneath the peritoneum) 2 terminal (caudad) ileum 3 head of the cecum 4 the vermiform appendix 5 the lower end of the ascending colon In this case the mesocecum and the mesocolon were both very long causing extreme ptosis with mechanical retardation of the fecal current in the ileum and cecum This form of lymphatic enlargement in some degree is a pathologic constant of epilepsy

THE QUESTION OF SPECIFICITY IN EPILEPSY

The clinical phenomena arising from toxemia of intestinal origin, including those found to be due to betaiminazo, are in varying degree common to all persons with chronic constipation They have consequently occurred with uniformity in all epileptics under my observation But they have not been peculiar to epileptics I have had occasion to operate on more nonepileptic than epileptic persons who were constipated Now, why does the chain consisting of mechanical constipation, hyperabsorption, toxemia, acidosis and edema lead to convulsive manifestations in one case and to something else in other cases? Or, to put it another way, why does the edema, the final link in this pathologic chain, focalize, let us say, in the internal capsule and cause epilepsy in one case, or in the sensory centers and cause intense headaches in another, or in the wider areas of the cortex and cause simple melancholia and other mental disturbances in still other cases? Or, why in the kidneys causing nephritis? Or why in the fundus of the eye causing choked disk? Or why in the muscles and joints causing certain symptoms of the rheumatoid complex? Or why in the thyroid, or possibly, in the suprarenals or the pituitary, causing modifications not merely of their structural elements, but also of their hormones with resulting perturbation of balance in the kinetic system? In short, what is the factor that determines the locus of the focalization in each instance?

The facts that, in my experience, less than 2 per cent of epileptics have epileptic parents excludes direct heredity, that the disease occurs in all types of both men and women at once excludes both sex and temperament, that it occurs in the young and the old excludes age as a factor, and that changes in the brain are always inconstant and, when they do occur, are secondary logically eliminates both of them from etiologic relationship to the disease Is the explanation to be found in the law of selective action, in conformity to which certain organisms or their respective bacterins, or even certain medicaments or poisons exercise a dominant, if not exclusive, effect on certain organs or structures? We know, for illustration, that meningitis, tetanus, rabies, diphtheria and typhoid are caused in this way We know that morphin, strychnin and atropin produce their effects by selective action We know that the whole system of therapeutics is largely built on the same principle The possible application of this principle to the occurrence of recurrent and evanescent edema of the inner capsule is of next importance to our inquiry

THE EPILEPTICOCCUS

In my earlier articles on this subject, I called attention to the logical necessity for the existence of some micro-organism which would at once account for the general phenomena of infection present in these cases and act as the determining factor in producing the convulsion In an endeavor to isolate such an organism, bacteriologic study has been made of the intestinal content, the ileac glands, the mesenteric and mesocolic lymphatics, and the blood in certain of my cases The details of these investigations are beyond my present purpose, although it is important to state that the earlier findings, when positive, were inconstant and unsatisfactory, while in the majority of instances they were entirely negative The work was accordingly discontinued, but was later resumed in my own laboratory in charge of Dr E P Hyatt In later cases there was found in the colon, solitary glands, the lymphatics and the blood an organism which consisted of granular bodies, sometimes arranged in diplococci, sometimes in clusters, sometimes in chains, while in certain cases, all these forms were present in a single case I felt that this was the essential organism of the disease—the epilepticoccus—but its apparent inconstancy made me hesitate in announcing my conviction Shortly after the finding of this organism, I accidentally found that the whole field had been covered and that an organism of apparently identical morphology had been discovered by Bra[4] quite fourteen years ago This important communication was made to the French Academy of Sciences at that time, but, marvelous as it may seem, its significance has been ignored by the profession up to the present moment, just as Mendel's great discovery of the law of heredity went without recognition until it was rediscovered by De Vries sixteen years later The significance of Bra's work which, with illustrations and text occupied only five small pages, will be recognized when it is remembered that he isolated the organism from the blood in seventy out of 100 cases, that he found it only in epileptics, that he found it in them only preceding or immediately following a crisis, that it entirely disappeared from the blood in the interval, that it was often demonstrable in the fresh blood, that it was cultivable in ordinary mediums, that it was reproduced when injected into the blood of rabbits, and, finally, that rabbits thus treated developed convulsions which in every particular were identical with grand mal seizures in the human subject—all of which has been confirmed at my own hands He emphasized the fact that this organism seemed to sustain the same relation to the epileptic seizures that the plasmodium does to the malarial crises This fact and the associated disappearance of the organism from the blood during the interval explains why our findings were negative in so many of our early cases from which the blood was taken irrespective of attacks, and why they are positive in our later cases The further study of this organism in my own practice and its relation to a rational therapy must be the subject of a subsequent report In this connection, however, it is important here to state that it has come about in my practice that, *as a means of ultimate diagnosis, the epilepticoccus has the same relative importance to epilepsy that their respective etiologic organisms have to malaria, tuberculosis, tetanus, diphtheria or typhoid*

---

[4] Bra De la presence d un parasite dans le sang des epileptiques Compt rend Acad d sc Jan 2 1902

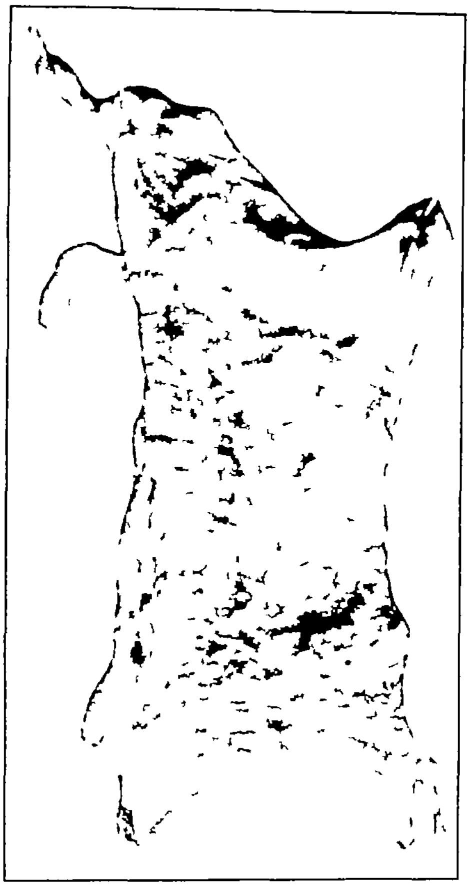


Fig 12 —The interior of the terminal (caudad) ileum from an epileptic subject, showing enteritis with marked hypertrophy of the solitary glands—a condition of frequent occurrence, although not a pathologic constant in epileptics

SECONDARY CHANGES IN EPILEPSY

There are certain changes in both the intestines and the brain of epileptics that may, I think, be looked on as purely secondary, especially in view of the now demonstrated infectious nature of the disease Those in the intestines are very marked, although there is but one of them that I have come to look on as a pathologic constant, the others being very variable Dilatation of the duodenum with chronic duodenitis characterized by exudation and adhesion and involving the first and second parts of the duodenum occurs in 100 per cent of epileptics in whom I have had occasion to make surgical exploration of the upper zone of the abdomen I look on this fact as significant, in view of the discovery of the organism of Bra in the retroduodenal lymphatics in several of my cases The constant presence of this dilatation with periduodenitis in epileptics is furthermore significant, in view of the additional fact that it but rarely occurs in nonepileptic persons who are constipated In certain cases similar exudates are encountered at the duodenaljejunal juncture, the head of the jejunum being at times adherent to the mesocolon, to the extent of an inch or more from the foramen In a few instances, I have found similar exudates involving the lower and — in one case as much as the lower 12 inches — of the ileum, with complete agglutination of proximal surfaces

CONCLUSIONS

The clinical phenomena which I have here recorded, the pathologic constants which I have here presented, considered in connection with the now demonstrated organism, especially in the absence of facts of contrary significance, seem to justify tentative conclusions as follows

1 Idiopathic or essential epilepsy is an infection

2 The infecting organism, whatever may be its primary habitat, finds its way under circumstances of forced absorption from the alimentary canal into the blood

3 The conditions that enforce absorption from the alimentary canal consist in mechanical distortions with resulting constipation in the form of either obvious or masked stasis

4 These conditions point to a logical line of treatment as follows (*a*) The organism should be isolated in each case with reference to the development of an antigen and the possible immunization of the patient (*b*) In the absence of such immunization or in recurrence after apparent immunization, but in certain otherwise favorable cases, the mechanical conditions of the intestines responsible for the enforced absorption should be surgically corrected and a stop thus put to the farther intake of the organisms by restoring the normal drainage of the bowel (*c*) Postoperative treatment should be instituted to neutralize and eliminate the residual infection already established in the glands and blood of the patient (*d*) In this connection it is of the highest importance to insist that the intercurrent chronic acidosis, which exists without exception in these cases, shall be as nearly as possible

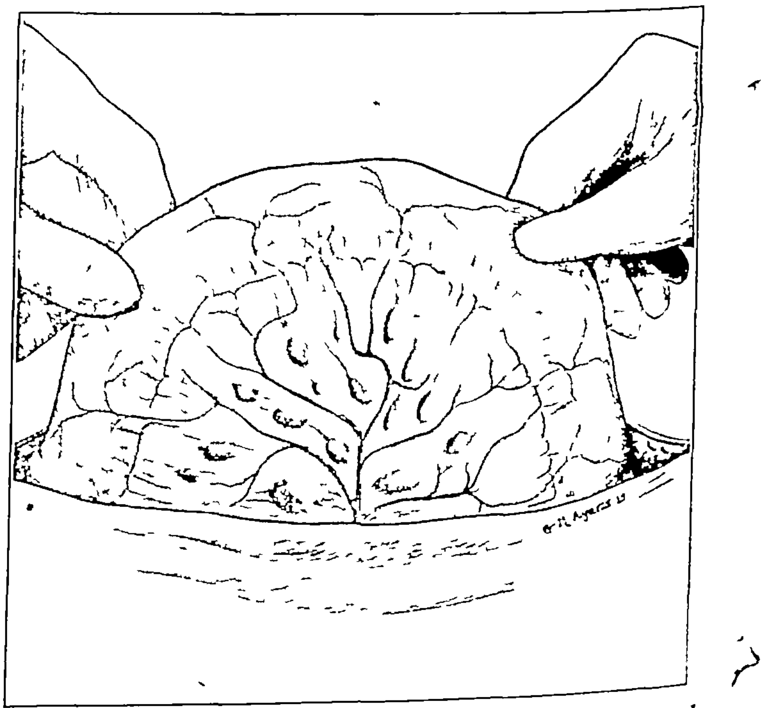


Fig 13 —Enlargement of retrojejunal lymphatics in an epileptic girl of 16 with grand mal seizures of great frequency and severity

reversed as can sometimes be done, although only temporarily, by appropriate treatment preliminary to surgical interference Failure to observe this precaution will result in a high surgical mortality The details of this treatment must comprise the subject-matter of a later report

Union Central Building

A CONTRIBUTION TO THE SUBJECT OF SKULL FRACTURES

ANALYSIS OF ONE THOUSAND CASES AT THE COOK COUNTY HOSPITAL, AND A REPORT OF SEVENTY-FOUR CASES EXAMINED AT NECROPSY

FREDERIC A BESLEY, M D
Professor of Surgery Northwestern University Medical School Attending Surgeon, Wesley Memorial and Cook County Hospitals
CHICAGO

Medical history, in its earliest records, shows a knowledge of skull fractures, and volumes have been written on the subject, yet our views are constantly changing regarding this condition, and the change is in direct proportion to the additions made to our knowledge through experimentation, research and clinical experience

Through the courtesy of the coroner's physicians, the late Dr Warren Hunter and Dr E R LeCount, I have been able to observe and secure notes and drawings from necropsies of seventy-four consecutive cases of skull fracture My purpose is to analyze carefully these cases seen at necropsy and to consider the clinical histories of 1,000 cases treated at the Cook County Hospital

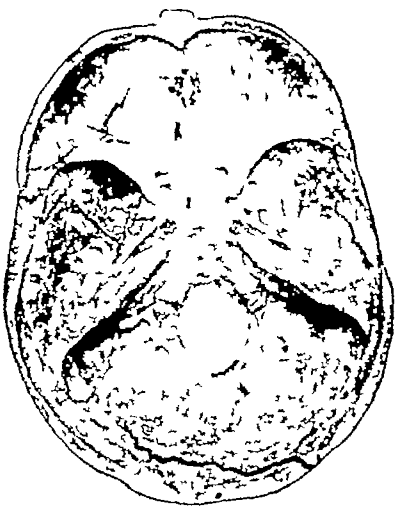


Fig 1—Fracture in Case 1 On opening skull about 8 ounces of soft clots and an equal amount of liquid blood were found external to dura over right hemisphere A linear fracture extended through occipital bones from above downward and from right to left, continuous with left lambdoid suture The inner plate had evidently sprung inward and back catching a portion of the dura

The brain showed little injury

Posterior branch of middle meningeal had been injured and the brain was slightly lacerated about one half inch from the sulcus centralis corresponding to upper extremity of fissure of Rolando on right side. Cerebral vessels at this point torn Scalp showed contusion over right occipital Hematoma beneath scalp at this point

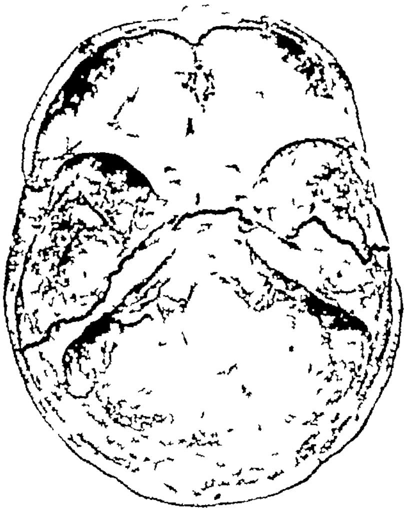


Fig 2 — Fracture in Case 2 No sign of external wound As scalp was incised, a hematoma was revealed over left parietal region On removing skull cap a clot containing about 4 ounces of blood was found covering and compressing slightly the right motor area. It seemed to come up from base and no rupture of middle meningeal could be demonstrated A clot of several ounces occupied right middle fossa and had produced a marked softening of the brain. Brain saved and preserved at college A fracture of base was revealed It commenced externally at base of mastoid process of left side and passed downward to tip splitting it into two equal parts the fracture then passed inward along anterior aspect of petrous portion, crossing the hypophysial fossa and terminating in middle cerebral fossa of right side

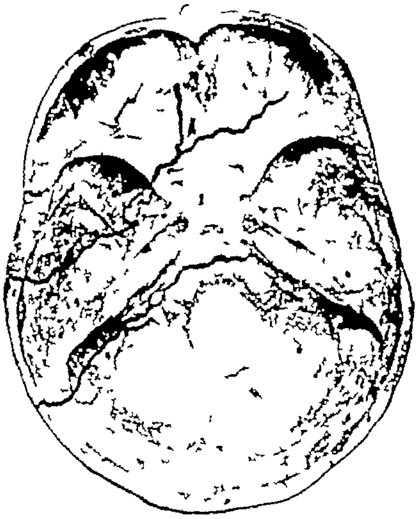


Fig 3 — Fracture in Case 3 The scalp over left side of head had been shaved, and a lacerated wound over left occipital region existed No operation on skull Left outer ear filled with dried blood Removal of skull cap exposed a dark clot over left motor area and a tear in anterior branch of middle meningeal A large quantity of bloody fluid escaped Brain showed a laceration of both temporal lobes on inferior outer aspect There was extensive hemorrhage beneath pia over anterior portion of right hemisphere The fracture commenced on left parietal and extended downward just posterior to petrous crossing to opposite side just in front of foramen magnum Another line of fracture extended anterior to petrous to foramen rotundum and from there forward to orbital plates on both sides

Skull fracture is one of the most common injuries, and there are about 100 cases admitted annually into Cook County Hospital When one realizes that the mortality, as shown by these records, is 53 per cent, it stimulates serious thought toward a betterment of these results

I am desirous of considering first the mechanism of skull fracture and to advance a new theory as to the manner in which the applied force produces the solution of the continuity of the bone The mechanism of fractures of the skull is a subject that has commanded a great deal of interest, and extensive investigations have been carried on by many workers who have spent much time in experimental study and clinical observation, directed toward the elucidation of the principles governing this condition The present and accepted theories regarding the mechanism are based on and embody two definite principles

1 The inbending of the skull at the point of contact of the blow

2 The bursting of the skull at a point some distance from the applied force

The bursting theory has to do largely with fractures of the base, and has for its foundation the underlying physical law that when a hollow sphere is compressed, the tendency is for it to fracture in a meridian parallel to the applied forces This has been worked out carefully by Wahl and others, and shown to occur actually in the skull when it is compressed between two fixed points, as in a vise I have presumed to take issue with the practical application of the latter theory

Experimentally this bursting occurs, but clinically the injury is rarely such as to give us a force applied at two given points, as obtains in the vise If the skull were a perfect hollow sphere, with walls of equal thickness, and we regarded the articulation with the condyles as one of the fixed points, then the bursting theory might be more acceptable The skull is not a perfect sphere, and its walls vary in thickness, the thinnest part corresponding in general to the middle fossae, which are the most common sites of fracture In seventy-four cases that I observed at necropsy the middle fossa was involved fifty-four times In all the experimental work that has been done, the investigators have not given sufficient weight to the fact that the base of the skull has a fixed point at its articulation with the atlas Manifestly when a blow is received at any point on the vault there is a counter inbending force at the articulation of the condyles with the atlas

A careful study of seventy-four cases of fracture of the skull at necropsy has convinced me that the fractures of the base are not produced by a bursting force, but are due to a direct inbending force applied through the articulation of the condyles and atlas I have observed repeatedly that the fractures occupy the same position and are of about the same extent, regardless of location of the injury on the vault The thinness of the skull through the middle fossa accounts for the frequent fracture at these sites

In all the examinations I have not observed a fracture of the posterior or occipital fossa that was not a direct continuation of a fracture of the vault There were twenty-seven such cases observed in this series of seventy-four

In a few rare injuries, in which the skull is caught between two fixed points, such as the bumpers of cars or between a moving car and a platform, the bursting force is a factor I believe, however, that my observations and deductions justify me in the assumption that in the large majority of fractures at the base the bursting force is not a factor, and that the true mechanism is the counter force at the condyles producing a fracture by inbending, or that the basal fracture is a direct extension of the fracture from the vault In these seventy-four cases, there was an association of fractures in the vault and base in fifty-four cases This is a higher percentage than is usually given, but is made from necropsy examinations The analysis of the 1,000 clinical cases shows an observed association in a much smaller percentage, the proportion being 33 per cent vault 34 per cent basal and 33 per cent associated The extent of the fracture is directly dependent on the amount of force applied

A fracture of the inbending type produces more extensive separation of the inner table, which fact can be illustrated by the break on the convex surface of a green stick When the cranial fracture is produced by a high powered bullet at a close range, a hydrodynamic force enters in, resulting in a sudden expansion of the brain tissue When a modern jacketed bullet is fired at close range, a complete shattering of the cranial structures may occur If a skull be fractured by a bullet, it is possible to distinguish between the wound of entrance and the wound of exit The table which is last penetrated by the missile shows the greater amount of radiating fracture This is sometimes important in medicolegal cases The latter condition was noted in the two cases of bullet wounds in the seventy-four cases observed at necropsy

The classification of cranial fractures into simple and compound fractures has a direct bearing on the diagnosis, prognosis and treatment

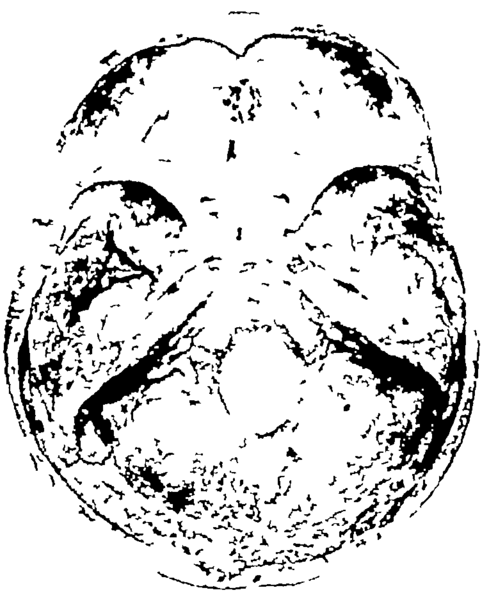


Fig 4—Fracture in Case 4 Signed out as fracture of femur and delirium tremens An ecchymosis beneath right eye led to the opening of skull On opening the skull a rather firm dark clot was found over motor area, extradural The dura was injured in opening the skull in such a way that an injury to the middle meningeal could not be positively identified, although that was the probable lesion Brain substance did not show injury at any point

No fracture of inner plate or external could be found on right side On removing dura from left petrous portion a small clot was revealed, occupying anterior surface Removing this a small nondepressed fracture was discovered at this point, anterior surface of petrous portion at junction of inner and middle third The fracture was in the shape of a triangle each side being about one half inch

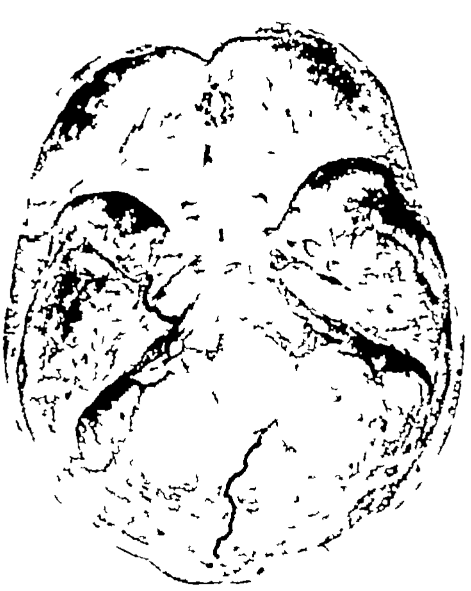


Fig 5 —Fracture in Case 5 Patient had had a distinct free interval of several hours Two small trephine openings were found over right motor area No clot or injury to brain at this point No fracture of vault revealed On removing cap a large firm subdural clot, containing 10 ounces was found covering and compressing the left (anterior) frontal lobe and extending back over motor area No macroscopic change in brain at this point, except evidence of compression Both ventricles were distended with several ounces of bloody fluid The medulla showed a small hemorrhage

The base was fractured In posterior fossa a fracture extended from a point to left of occipital protuberance downward and to the right to foramen magnum The left middle fossa showed a short fracture involving the inner portion of petrous

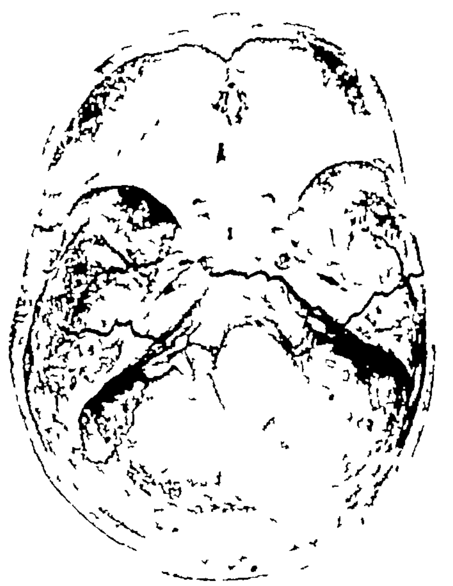


Fig 6 —Fracture in Case 6 The scalp showed no break in its continuity Over right parietal region there was a contusion The scalp was raised from skull by a large effusion of blood Left ear was filled with blood No subconjunctival hemorrhage On removing scalp an extensive fracture of vault was found extending from mastoid to mastoid A separation of 1 cm existed with tearing of pericranium On removing skull cap a thin clot was found covering (anterior) frontal and motor area of right hemisphere The left middle fossa contained a clot, and the brain was slightly lacerated at this point Removing brain a fracture was revealed extending from line of fracture of vault on right side across petrous portion and into left middle fossa Another short fracture crossed the petrous portion on left side

In compound fractures of the base we are able to accomplish little in the way of prevention of infection In compound fractures of the vault, we are in a position to combat infection to a material extent, and of this I shall speak later

A diagnosis is of course much more easily made in fractures of the vault if the continuity of the soft tissues is destroyed than if the scalp is intact

In the 1,000 clinical cases here analyzed from the records of Cook County Hospital, those of the vault were compounded in about 35 per cent

From a clinical point of view there is some logic in the classification of skull fractures according to their situation at the base or on the vault, although investigation convinces me that fracture of the base is much more frequently associated with fracture of the vault than is commonly supposed Brun, in an analysis of 470 cases, states that they are associated in from 70 to 75 per cent of injuries In my analysis of seventy-four cases at necropsy there were sixty-five of the base, sixty-three of the vault, and an association of both types of fifty-four cases, or 72 9 per cent In the 1,000 clinical cases an association was recognized in only 33 per cent , showing the difficulties of diagnosis of the exact location of line of fracture

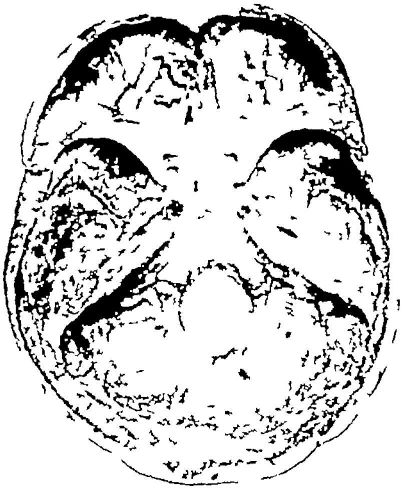


Fig 7 —Fracture in Case 7 —No external sign of injury On opening the skull there was an escape of several ounces of seropurulent fluid extradural The dura covering the whole left hemisphere was covered with a purulofibrinous exudate As the brain was lifted from the cranium a seropurulent fluid welled up through the foramen magnum from around the cord Over the anterior frontal lobe the dura was thickened and covered with a necrotic exudate. On the frontal bone corresponding to this area the inner plate was slightly necrosed This represented the position of a localized collection of pus The brain at the upper end of the central sulcus showed some softening over an area of about 3 inches one half inch in depth There was no pus in either middle ear or corresponding mastoid cells The cribriform plate of the ethmoid and the orbital plate left of the frontal showed small linear fracture The left orbit was full of pus as were the left frontal sinus and left ethmoidal cells

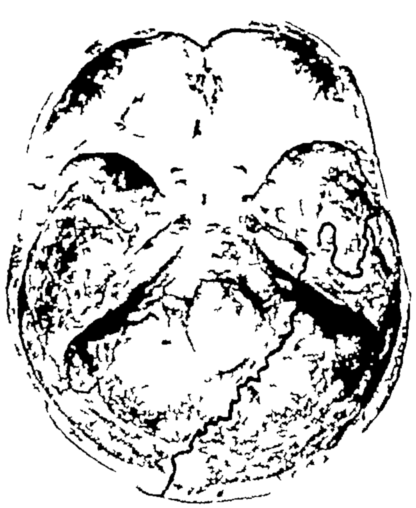


Fig 8 —Fracture in Case 8 Said to have been struck by street car Post mortem right eye showed a subconjunctival hemorrhage Right external ear filled with dried blood Over left occipital bone there was a lacerated wound 2 inches long which had not been dressed No fracture of vault. On removing skull cap a large amount of bloody fluid escaped

There were hemorrhages over nearly the entire surface of left brain beneath pia giving the appearance of a hemorrhagic pachymeningitis There was a laceration of right lobe of cerebellum and of both anterior frontal lobes on inferior aspect Brain preserved at college

The base was fractured the line of fracture beginning at point of scalp wound just to the left of the occiput and extending downward and forward across the posterior fossae to right middle fossa crossing petrous and ending near foramen rotundum another irregular fracture existed in right middle fossa

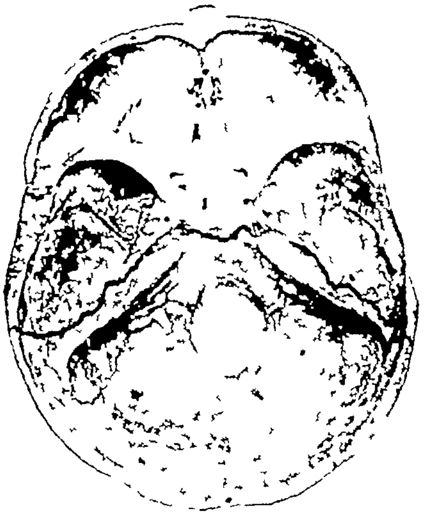


Fig 9 —Fracture in Case 9 Man apparently about 30 injured in railroad wreck in which a number were killed Compound fracture at right wrist and numerous contusions on body

No evidence of injury to head, except dried blood in right ear none in left ear No hematoma beneath scalp No evidence of fracture of vault On removal of skull cap there was no escape of bloody fluid and no sign of hemorrhage within skull

Careful examination of brain failed to show a lesion.

On removing dura from base a fracture was found beginning at base of mastoid on one side and extending in nearly a straight line to base of mastoid on opposite side The line of fracture followed the anterior surface of each petrous splitting the hypophysial fossa The sections of skull were freely movable at line of fracture The mastoids were completely divided from base to tip There had been no hemorrhage.

DIAGNOSIS

In the diagnosis of skull fractures, as in the diagnosis of any pathologic condition, importance must be attached to the history This usually tells us the kind of an injury that the patient has received, whether it be a blow on the head or a fall from a height and allows us to estimate approximately the amount of force applied This 1,000 cases shows that 384 patients received their injury by falling from a height, and 311 were struck on the head Thirty-eight cases were due to gunshots The cause of injury of 267 cases was not recorded

The age of the patients varies within wide limits, the youngest being 3 hours old, and the oldest 81 years A large majority (68 7 per cent) of them were between the ages of 30 and 55

If there be extensive lacerations of the soft parts with an exposed bone showing lines of separation, with displacement of the fragments, then the diagnosis may be made at a glance When, however, the soft tissues are intact, the proposition becomes a more difficult one It is almost impossible to palpate a depression in the skull through an intact scalp with any degree of certainty An exudate beneath the fascia simulates the edge of the bone so closely that even the experienced clinician may be deceived

The cracked pot sound elicited on percussion has not proved of great value to us The roentgenogram is obviously the surest aid in recognizing a fracture This is especially true of the stereoscopic plates, which frequently show a fracture that a single plate fails to reveal

The signs of general intracranial pressure produced by bleeding or edema are usually present, as manifested by unconsciousness, slow pulse, embarrassed respiration high blood pressure, choked disk and vomiting These signs are more or less apparent and marked, depending on the amount of hemorrhage and edema

The focal signs are entirely dependent on the area of brain that may be involved from laceration or pressure from blood clot Signs of compression or focal signs of cortical injury are strongly indicative of skull fracture, but may occur independent of bone injury, being caused by hemorrhage or laceration of brain tissue

The free interval of consciousness subsequent to the primary period of unconsciousness and followed by deep unconsciousness indicates a progressive active hemorrhage and pressure This results most frequently from injury to the middle meningeal artery, and this artery is rarely involved without an associated fracture

In fractures of the base, additional evidence is had through free hemorrhage from ears, nose, mouth or into the orbital cavity Continuous bleeding from the ear following an injury to the head is almost pathognomonic of a fracture of the base The escape of serospinal fluid or brain tissue is pathognomonic of fracture In this series of 1,000 cases, blood and spinal fluid from the ears occurred in 316, or 31 5 per cent of the cases, bleeding from the right ear 131, from the left ear 146, and not stated eighteen Free bleeding from the orbital cavity occurred in ten cases Unmixed cerebrospinal fluid from the ears occurred in 2 per cent, or twenty-one cases It came from both ears in three cases, from the left in thirteen cases, and from the right in five cases

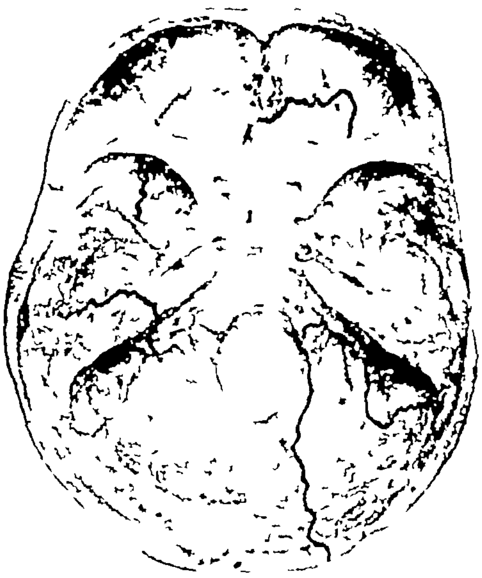


Fig 10—Fracture in Case 10 Signed out as skull fracture No evidence of an external blow, no contusion On opening the skull about 8 ounces of dark fluid blood escaped *A number of small clots* beneath the dura and over the cortex of both hemispheres

On removal of brain, several ounces of clotted blood were found in right posterior fossa and in left anterior fossa In the right lobe of cerebellum was a laceration *2½ inches long by three* quarters inch deep on the inferior surface A lacerated wound of about the same extent existed on the inferior surface of the left frontal lobe Brain substance otherwise intact

An extensive fracture of base existed involving all these fossae Fracture of posterior fossae ran into foramen magnum Fracture crossed left petrous portion No ear bleeding recorded Drum appeared intact Both frontal orbital plates and lamina cribrosa involved The right orbital plate had caught *a portion* of dura in the fracture to the extent of about 1 inch

Occipital fragment moved on movement of head and might have been immobilized, *by fixing neck*

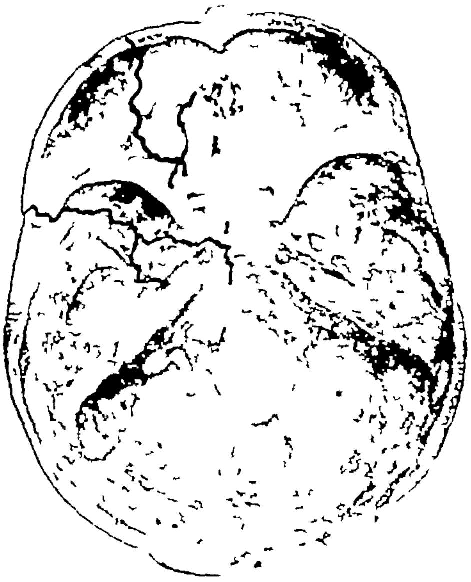


Fig 11—Fracture in Case 11 On cutting through the scalp a good sized hematoma was found in soft tissues of scalp and beneath the pericranium Externally a linear fracture appeared extending from the superior temporal ridge on the right across the frontal, parallel to and just anterior to coronal suture, reaching the temporal and extending to the base A fracture at right angle extended anterior through left frontal to orbit On removing the cap a large dark *firm clot—extradural*—was found occupying a position over and compressing the right (anterior) frontal lobe This clot weighed about 10 ounces (of blood) and extended to the motor area *on* right side and over the right frontal (anterior) convolutions On removing *the brain it* was found intact except for compression from clot There were no lacerations and no hemorrhages in substance The base showed several lines of fracture The left orbital plate of frontal was *comminuted and the orbit* filled with clots A fracture continuous with the one on *vault* extended *across the* left middle fossae, involving petrous portion and passed backward to foramen magnum

Hemorrhage came from tear in right *anterior branch of middle meningeal*

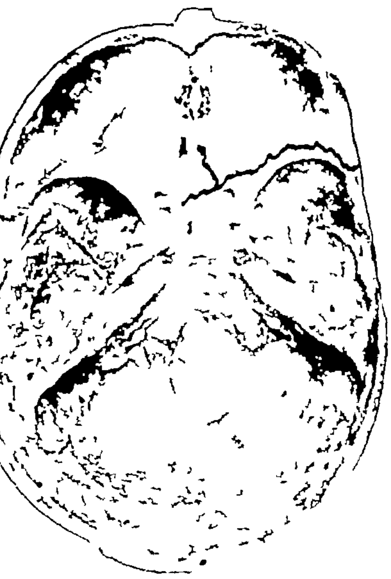


Fig 12—Fracture in Case 12—Over right occipital region there was *an incised wound* of scalp about 4 inches long closed with silkworm gut sutures. The scalp tissues *in this* region showed a suffusion of blood As the scalp was removed, a linear fracture *of vault was revealed*, extending from right parietal eminence downward and forward across temporal bone outer canthus of right eye, involving frontal bone. Just above the external auditory meatus there was a fragment of bone 2 cm long and 1 cm wide completely loosened As the cap was removed a *firm*, dark clot containing about 6 ounces of blood was found compressing the motor area *and anterior* frontal convolutions The posterior branch of the middle meningeal was found lacerated just above the division of main artery Clot was mostly extradural, although a few scattered *clots* were found beneath dura The brain substance was somewhat lacerated at a point opposite the small loose fragment On removing the brain the middle fossa on left side was *found* filled with blood clot and the left temporal lobe was completely softened and disintegrated *There* was no fracture of base at this point The orbital plate of frontal on the right side was *fractured* and orbit contained a clot behind eye Sectioning of brain failed to show any change except as mentioned ventricles contained only normal amount of clear fluid cerebellum and medulla showed no change

Free bleeding occurred from the mouth and nose in 172 cases, from the nose in 118 cases, and from the mouth alone fifty-three cases, or a total of 343

The blood from a broken bone at the base may become diffused through the soft tissues and appear later as an ecchymosis at various sites, depending on the location of the fracture These later appearing ecchymoses near the seat of fracture are observed at the external angular process or over the mastoids or about the occiput, and it is my conviction that they are very strong presumptive evidence of the existence of a basal fracture, even if they are unassociated with coma or definite focal signs

Occasionally an involvement of one of the cranial nerves is the only sign that is present indicating fracture The nerve most commonly involved is the sixth A paralysis of one facial nerve is recorded in thirteen cases in this series

The advisability of making a spinal puncture in all cases of suspected skull fracture comes into question When blood is found in the spinal fluid, it is highly presumptive evidence of the existence of a fracture The procedure, however, is by no means free from danger, especially in those cases in which there is a marked increased intracranial pressure The danger is that with the relief of pressure within the spinal canal, the medulla and pons may be forced into the foramen magnum and constricted sufficiently to cause immediate death Therefore, it is not our routine practice to do a spinal puncture in all cases It is not done if the diagnosis can be made certain from other signs and symptoms This procedure is reserved for that class of cases in which a patient is picked up on the street in coma and remains unconscious with no obtainable history of injury If a positive diagnosis is not arrived at from other evidence, a spinal puncture is done

The spinal fluid may show blood from lacerated brain tissue which exists without fracture Escape of cerebrospinal fluid is pathognomonic of a fracture It is found in a small percentage of cases, having been observed in 2 per cent of this series of 1,000 cases

Vault fractures with recovery, average respiration 22

Vault fractures terminating fatally, average respiration 32

Vault fractures with depression terminating in recovery, average respiration 24

Vault fractures with depression terminating fatally, average respiration 32

Basal vault fractures associated with recovery, average respiration 24

Basal vault fractures terminating fatally, average respiration 40.

This shows that in the fatal cases of all types the respiration average was consistently higher

The temperature curves in the thousand cases do now show any positive diagnostic evidence In the patients who recovered the average temperature was below 100 F The average temperature in the fatal cases was 102 In seven cases, however, the temperature was above 105, reaching 107 in two cases

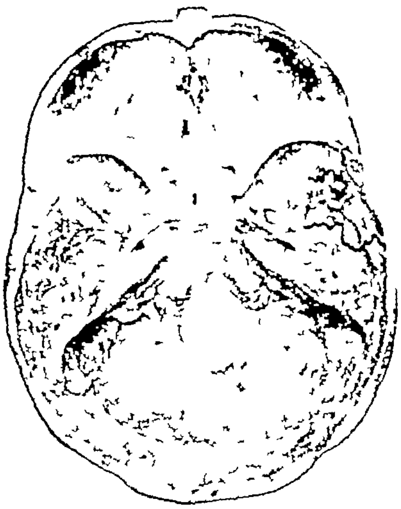


Fig 13—Fracture in Case 13 Patient had been operated on. There was a horseshoe flap over right temporal region corresponding to attachment of temporal muscle.

Beneath flap, skull had been cut away leaving an opening about 8 cm in diameter with a trephine opening posterior to it The bone had been replaced On removing brain a fracture from opening extended through middle fossa to within 2 cm of foramen rotundum The brain showed signs of compression from clot which had evidently been removed. The brain tissue showed extensive laceration at point opposite removed bone the laceration extending toward inferior aspect

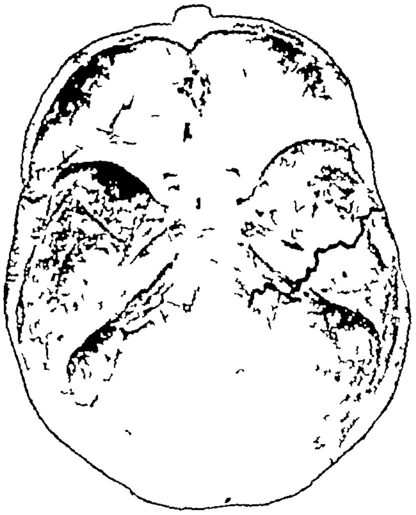


Fig 14—Fracture in Case 14 Patient had been operated on Horseshoe flap over right temporal region almost identical with that in Case 11

On laying back the flap temporal muscle was found sutured with catgut over an oval shaped opening in skull about 6 cm in diameter Fracture extended forward from this opening to outer canthus and downward across middle fossa crossing petrous portion and terminating in foramen magnum The brain tissue was severely lacerated in both lobes occupying middle fossae. Hemorrhage beneath pia had taken place over entire right hemisphere No gauze packing in skull opening

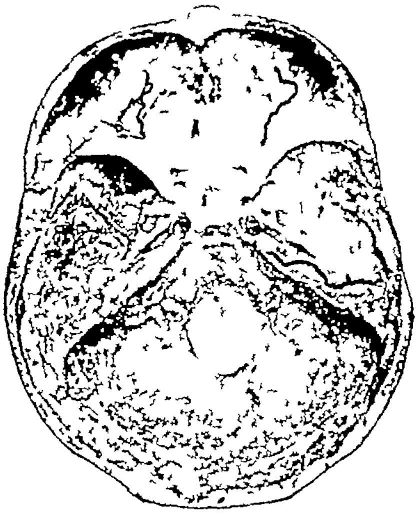


Fig 15—Fracture in Case 15 The scalp was intact but showed a hematoma over right parietal region On removing the scalp an irregular triangle shaped depressed fracture was found in right parietal region On removing skull a diffuse clot was found covering brain beneath site of depression the posterior branch of middle meningeal did not seem to be involved the hemorrhage apparently coming from the smaller vessels of the pia On removing brain a fracture was found in the base on superior surface of petrous portion of right temporal A small linear fracture was found on both orbital plates of the frontal The left middle fossa showed no fracture but contained a good sized blood clot and the brain was lacerated at this point The man also suffered from a fracture of sternum with hemorrhage into chest.

Emphysema into the soft tissues may occur about the frontal sinuses or over the mastoids if the air cells are widely opened No case of emphysema was noted in this series

An analysis of the pulse rate in this thousand cases is given in Table 1, and is most interesting and instructive It is surprising to note how infrequently it remains slow I believe that these records are reliable in this particular, for the nurses at Cook County Hospital are unusually well trained, accurate and efficient

The pulse rate in cases of combined vault and basal fractures recognized as such clinically were consistent with these records, showing that the average pulse rate was higher in the fatal cases and that the number of cases with a slow pulse was relatively small

The records of the respirations in this thousand cases fail to show a striking characteristic change A summary of the records shows the following

The pupillary changes occurring in 1,000 cases are given in Table 2

The eye protruded in nine cases There is no note made of a single case of pulsating exophthalmos

The patellar reflexes were increased in sixty-seven cases, and absent in fifty cases, with no change recorded in the others

A Babinski reflex was observed in fifty-five cases, and a Kernig sign in eight cases General convulsions were noted in thirty-two cases Clonic convulsions of the arm occurred in six cases, of the leg in two cases, and of the face in seven cases

Rigidity of the legs was observed in twenty-nine cases and of the neck in twenty-nine cases Complete muscular paralysis was observed in the muscles of the face in forty-seven cases, in the muscles of the legs in fifty-five cases, and in the muscles of the arms in fifty-eight cases

TABLE 1—ANALYSIS OF PULSE RATE IN ONE THOUSAND CASES

Nature of Fracture	Number of Cases	Average Pulse Rate
1 Fractures of the vault without depression, with recovery (average pulse rate 71)	6 8 14 23 18 14	50 60 70 80 90 100 plus
2 Fractures of vault without depression resulting fatally (average pulse rate 113)	1 1 1 1 12	50 60 80 90 100 plus
3 Fractures of vault with depression with recovery (average pulse rate 92)	1 8 24 39 26 51	50 60 70 80 90 100 plus
4 Fractures of vault with depression terminating fatally (average pulse rate 116)	2 3 1 25	40 80 90 100 plus
5 Fractures of base with recovery (average pulse rate 81)	4 16 15 21 13 10	50 60 70 80 90 100 plus
6 Fractures of base with death (average pulse rate 105)	1 6 2 9 17 25 22 119 1	14 40 50 60 70 80 90 100 plus 200

TABLE 2—PUPILLARY CHANGES IN ONE THOUSAND CASES

Pupillary Changes	Side	Number	Average Per Cent
Dilatation of the pupil	Left Right Unequal pupils	35 37 123	19.5
Loss of light reaction	Both Right Left	72 8 5	8.5

In this series of 1,000 cases, vomiting was a common symptom, and occurred in 361, or 36 per cent of all cases In eleven cases the vomitus was almost wholly blood

104 South Michigan Avenue

Baby Week Campaign—The Children's Bureau of the United States Department of Labor has issued a bulletin presenting in detail practical methods of organizing and carrying on a baby week in cities, towns and rural communities A campaign of publicity through newspapers and meetings, celebrations in schools, the collection of public welfare information and follow-up work after the baby week is over, are some of the features suggested An infant welfare exhibit might also be made During the week thorough physical examination of babies should be made according to some definitely outlined plan The physician should hold interviews with the parents, in which the needs of the baby would be pointed out and the general hygiene best suited to the baby under consideration, discussed All this work has one common aim, to focus attention on the individual baby Copies of the bulletin may be obtained free of charge on application to the Children's Bureau, Washington, D C

A CASE OF FATAL DIABETIC COMA WITHOUT DIACETIC OR BETA-OXYBUTYRIC ACID

G W McCASKEY, A M, M D
Professor of Medicine, Indiana University, School of Medicine
FORT WAYNE, IND

This case of fatal diabetic coma without either diacetic or beta-oxybutyric acid in the urine seems of sufficient interest to be placed on record, because of the general tendency to trust to the Gerhardt reaction as a sign of impending coma in cases of diabetes[1]

History—Mrs H, aged 53, hairdresser, referred by Dr Jackson of Hicksville, Ohio, entered St Joseph Hospital Nov 5, 1913 The family history was entirely negative The patient's health had always been good She had typhoid fever at 16 and again (?) at 43, and pneumonia at 45 There had been no other severe illnesses Menstruation began at 16, there had been two pregnancies, one resulted in a miscarriage at three months, and there is a son living at 33 The menopause occurred at 49 The patient's health has been good during and since, until the beginning of the present illness Two months ago the patient began losing strength and weight, and was quite thirsty—"could not get enough" Nocturia occurred five or six times There was no polyphagia, but on the contrary, complete anorexia The patient had lost 30 pounds in weight since the beginning of her illness, and had considerable dyspnea, and *constant* nausea, sometimes extreme, but without vomiting at any time

The symptoms and the general condition had grown progressively worse from the onset of the disease At the time of my examination the patient was quite weak, but her general appearance was not bad She had complete anorexia, and ate practically nothing

Physical Examination—The heart was moderately dilated (2 cm to left of the midclavicular line), there was some tenderness corresponding very closely to the area of the pancreas The pulse was 110, and the temperature of normal range throughout The blood pressure (systolic, sitting) was 120

The blood examination revealed the hemoglobin as being 80 per cent, leukocytes 7,000, polymorphonuclears 76, small lymphocytes 18, large lymphocytes 4, transitional 1, and eosinophil 1

The urine was acid, with a specific gravity of 1.025 Both albumin and sugar were present Urea, 0.5 per cent, was equal to 5.4 gm in twenty-four hours Both indican and *acetone* were absent

Microscopically, there were many hyaline and granular casts, leukocytes and epithelial cells

At this point the relative importance of the diabetes and Bright's disease, aside from the light shed by the history, was very problematic

The phenolsulphonephthalein test showed, first hour, 31 per cent , second hour, 12 per cent , total, 43 per cent

During the first twenty-four hours in the hospital the output of urine was 3 100 c c and varied thereafter from about this figure up to 4,000 November 12, the seventh day, for example, the quantity was 4,120, with 3⅓ per cent of sugar, a total of 137 gm On this day a careful analysis of the blood was made and it was found to contain 0.66 per cent of sugar and 0.02 per cent of urea Acetone was constantly present after the first examination, but neither diacetic nor beta-oxybutyric acid could be detected at any time A final careful qualitative test was made for both in the urine withdrawn by catheter when the patient was moribund

On account of the anorexia, the dietetic treatment was of course, without significance Sodium bicarbonate was given in as large doses as could be tolerated, which was about

---

[1] J Rosenbloom (New York Med Jour Aug 7, 1915) reports three fatal cases of diabetic coma without beta oxybutric or diacetic acid or even acetone in the urine differing in this last point from the case here reported

8 gm daily After three or four days the patient became at times distinctly somnolent

On the morning of the eighth day the nurse reported that the patient was apparently all right at 5 30, but two hours later was found in deep coma

As soon as arrangements could be made about 9 a m, she was given an intravenous injection of 1,300 c c of 2 5 per cent solution of sodium bicarbonate At the beginning of this injection the systolic blood pressure was 75 and remained practically uninfluenced by this injection, or anything else done up to a short time before death It was impossible to rouse the patient at all before the injection but when nearly completed she opened her eyes and asked what we were doing She was less comatose for a few hours, but soon relapsed into her former condition At 5 30 we gave her 900 c.c. containing 1 ounce of sodium bicarbonate Slight improvement again followed for a brief time, but coma soon deepened, and she died about 11 p m.

No necropsy could be obtained

For some unaccountable reason the ammonia excretion was not estimated, and thus was missed the most reliable criterion of an acidosis The clinical picture, however, was unmistakably that of the "alcoholic type" of diabetic coma It was not Kussmaul's air hunger, nor was it the circulatory failure of "diabetic collapse" That it was really a coma from some type of acidosis is indicated by the transient improvement following the intravenous injection of large quantities of sodium bicarbonate But to what was the acidosis due?

Futcher[2] says "Without qualification we can at present say that the acid intoxication of diabetic coma, or 'acidosis,' as Naunyn calls it, is due to the action of beta-oxybutyric acid," thus indorsing Stadelmann's[3] dictum that "diabetic coma occurs *only* when the urine contains beta-oxybutyric acid" This case seems to prove that there are exceptions to this rule

There would seem to be three hypotheses available for explanation of this case

1 The coma was due to beta-oxybutyric acid which was so rapidly oxidized that only acetone remained in the urine

2 The coma was due to acetone

3 The coma was due to some unknown derivative of the acetone group

The first hypothesis seems entirely untenable, inasmuch as beta-oxybutyric acid is readily excreted by the kidneys in considerable amounts long before a fatal coma develops Even if it were conceivable that the beta-oxybutyric acid was all oxidized, the next oxidation product, diacetic acid, would certainly be present The absence of both these acids appears to me to be conclusive proof that the coma was not due to beta-oxybutyric acid

Was it due to acetone which was freely excreted and presumably contained in large quantities in the blood? The evidence on this point is somewhat conflicting It is true that a number of observers have taken acetone in considerable doses without marked symptoms

Sollmann[4] quotes Albertoni to the effect that it is faintly hypnotic, but causes so much dyspnea that it is not used internally This would seem to indicate very decided toxicity When taken by the mouth, it should be remembered that it has to run the gauntlet of the laboratory of the liver, whatever effect this may have Rhamy[5] produced drowsiness or even stupor and other toxic phenomena and fatty changes in the liver and kidneys by hypodermic injections of acetone in guinea-pigs Acetonemia is apparently entitled to very serious consideration in such a case

The third hypothesis, although entitled to thoughtful consideration, is not supported by any available facts so far as I know

The principal clinical interest attaches to the absence of Gerhardt's reaction, showing that this cannot be relied on to exclude impending coma Neither can the low blood pressure which Ehrmann[6] says is a nearly constant feature of the precoma state In this case the systolic pressure was 120, falling to 75 only when coma had actually supervened Considerable scientific interest, however, attaches to the absence of beta-oxybutyric acid which was determined in my laboratory by the Black method,[7] as well as the absence of the intermediate body, diacetic acid and the presence of large quantities of acetone

---

AN UNUSUAL CASE OF APPENDICITIS

WARREN G YOUNG, M D
PORT ARTHUR, TEXAS

Every case of appendicitis is of some clinical interest to surgeon and physician alike, but some cases stand out on account either of the operative findings or of the complications which follow It is to the latter class that the following case belongs, and I believe its report will be read with some interest, particularly since it terminated in a complete recovery

History—W M, man, aged 21, walked into my office, March 15, 1915, leaning forward and very lame apparently in the right hip, saying he had appendicitis He had been taken sick, March 10, with indigestion, pain in the stomach and vomiting, March 14, there had been severe pain in the lower right flank, but at present the pain was felt over the entire abdomen The temperature was 99, pulse 140, abdomen rigid Vomiting had ceased the day before The bowels had acted in the morning from a dose of salts taken the night previous On a diagnosis of gangrenous appendix, possible rupture and peritonitis, the patient was taken at once to the Mary Gates Hospital, and prepared for operation

Primary Operation—The abdomen was opened through the usual right rectus incision When the peritoneum was opened, a mass of gangrenous omentum was encountered which was ligated and resected The cecum was adherent laterally and anteriorly I did not deem it safe to liberate the adhesions and bring the appendix into the wound for its removal The appendix could be felt buried beneath a dense pericolic (Jackson's) membrane This membrane had to be divided before the appendix could be exposed It was situated posterior, its tip pointing north Seeing that it would be unsafe to break up or sever the surrounding adhesions sufficiently to deliver the appendix into the wound for its removal I enlarged the incision sufficiently to allow working room, retracted with deep retractors, and with much difficulty removed the appendix in situ Its proximinal half was normal in appearance, the distal half was gangrenous, nigh onto rupture. At the point of juncture of the two portions the appendix was constricted as if by a tight ligature, which constriction was caused by the band of pericolic membrane which surrounded the cecum and buried the appendix beneath it.

---

[2] Futcher in Osler s Modern Medicine 1907 i 786

[3] Stadelmann in Williamson s Diabetes Mellitus and Its Treatment, p 279

[4] Sollmann Pharmacology p 443

[5] Rhamy B W Acetonuria and the Relation of Acetone to 'Acid Intoxication The Journal A. M A March 2 1912 p 628

[6] Ehrmann Berl klin Wchnschr August 1913

[7] Morris Clinical Laboratory Methods p 67 Briefly the test is as follows Ten c.c. of urine are evaporated to one third of its volume. To the residue are added a few drops of hydrochloric acid It is then made to a paste with plaster of Paris allowed to stand until it begins to set and extracted twice with ether after breaking into fine fragments. The ethereal extract is evaporated and the residue dissolved in water and neutralized with barium carbonate. Two or three drops of hydrogen peroxid are then added which converts the oxybutyric acid if present into diacetic acid which is then determined by the ferric chlorid or Gerhardt test.

The usual peritoneal toilet was carried out, a split rubber drainage tube inserted well down over the lower cecum, and the abdomen closed. The patient was put to bed in the Fowler position, and the Murphy drip ordered, together with morphin, one-fourth grain, and atropin, 1/150 grain by the needle.

The patient reacted well from the anesthetic and operation with apparently little shock, and had a good night. The next morning the pulse was 118, temperature 99, and conditions looked encouraging.

Peritonitis.—The next evening, thirty hours after the operation, the patient began to show signs of a rapidly spreading general peritonitis: chills, a temperature of 104.5, a pulse of 140, vomiting, the abdomen much distended and rigid, the countenance pinched. The clinical picture indicated that the inevitable would result unless we could do something more, and that very soon. The patient was accordingly returned to the operating room, and hypodermoclysis of 1 quart saline, begun simultaneously with the anesthetic. His condition was desperate, and it seemed probable that he would die on the operating table unless we got him off soon. I reopened the abdomen through the original incision. The peritoneal cavity was filled with bloody pus. This fluid was hurriedly mopped out with dry sponges, and six split rubber drainage tubes inserted as follows: one down to the stump of the appendix, one below the cecum, one extending above along the ascending colon toward the liver, these three coming out through the original incision, another through a stab wound in the left flank extending downward toward the sigmoid and behind the bladder, another through a stab wound to the left and a little above the umbilicus, extending upward in the region of the stomach and spleen, and a sixth one through a stab wound in the right loin posteriorly, draining the region of the cecum and ascending colon from behind.

From this day on we had a stormy time, the temperature did not fall below 102 for eight days. Paralytic distention was met with pituitary extract, repeated at six-hour intervals, usually with relief. The bowels moved on the second day. During the subsequent four days the patient received by hypodermoclysis a total of 4 quarts of normal saline solution and 1 quart of glucose solution. On the fifth day he became profoundly jaundiced, the urine containing much bile, 5 per cent. albumin and many casts (a toxic nephritis).

Retrocecal Abscess.—March 25, the patient's condition again looked promising. The jaundice cleared up and the outlook seemed a little hopeful, when his temperature suddenly began to rise again and he was seized with severe pain in the lower right flank. I felt certain that we had an abscess below the cecum which was not within the range of our drainage. His condition did not permit of a general anesthetic. Under local anesthesia of quinin and urea hydrochlorid I cautiously dissected through a 1-inch incision in the extreme lower right abdominal quadrant, until the peritoneum was reached. This was opened and an abscess cavity found, which on digital exploration extended upward and posteriorly. A split rubber drain was inserted, this making the seventh drain into the peritoneal cavity. The patient's condition was critical for the next four days, when it began to clear up and we believed once more that we were about to enter on convalescence. At this juncture an acute gastric dilatation came very near closing the scene. This was met by the stomach tube, but recurred at intervals for the next three days.

Pleural Involvement.—March 29, he was seized with severe pain in the right chest, the temperature rose to 102.5. Examination revealed pleuritic friction sounds and a right sided pleurisy extending well down to the diaphragm. The liver was enlarged and very tender on percussion and palpation. The pleural cavity rapidly filled with fluid, which was aspirated, 24 ounces of bloody seropus being removed.

Liver Infection and Empyema.—Exploratory aspiration of the liver was done, the withdrawn fluid showing microscopically numerous pus cells. On the following day, April 2, the ninth rib was resected in the midaxillary line. This was done under local anesthesia, supplemented by a small amount of chloroform. The patient's condition was critical from sepsis and exhaustion, and at one time the head nurse thought he had died on the table. The chest was opened and several ounces of pus evacuated from the pleural cavity. The liver could be clearly seen covered by the pleura and diaphragm. On digital exploration, fluctuation was detected and as the liver seemed to be adherent to the diaphragm, I did not hesitate to incise the abscess, and I introduced a wick of iodoform gauze which was brought out through the opening in the resected rib. Another gauze drain was inserted into the pleural cavity, extending upward, and also brought out through the resected rib opening.

The liver did not drain very much for the first few days, but subsequently free drainage was established, when the gauze drain was removed and not replaced. The drain in the pleura was renewed several times, and removed at the end of two weeks.

Outcome.—The patient suffered much from adhesions, causing distention and pain, for several weeks. His recovery was slow and tedious, but he was able to leave the hospital June 3, 1915, with a fecal fistula communicating with the cecum, and an empyema sinus still discharging. A letter from him dated Aug. 10, 1915, says that both have closed and that he is in good health and ready for work.

SUMMARY

The gangrenous appendix in this case was clearly due to constriction by a Jackson's membrane.

The technical difficulties encountered in its removal were due to its posterior situation and to its being buried beneath a pericolic membrane, plus an adherent cecum.

The early drainage of the peritoneal cavity, which was done thirty hours after the primary operation when the abdomen was reopened on the advent of the general peritonitis, was probably responsible for the favorable outcome.

There was retrocecal abscess which was located and evacuated under local anesthesia.

This was followed by pleural involvement, the infection of the liver, and the prompt and radical treatment of the empyema and drainage of the abscessed liver through the transpleural-thoracic route.

In discussing this method of attacking an abscessed liver in such cases, Deaver[1] says that this is the route of choice even in cases in which there is no empyema. He describes in detail the technic of drainage through the thorax transpleurally, and adds that only about 16 per cent. of liver abscesses can be successfully handled through a laparotomy.

This case shows what can be accomplished by persistent and well directed effort, even in the face of such desperate crises as were encountered, and also emphasizes the necessity for operation in all cases of appendicitis as soon as recognized.

---

[1] Deaver, J. B.: Appendicitis, Ed. 3, Philadelphia, P. Blakiston Son & Co., 1905, p. 422.

Production of Sodium and Sodium Peroxid.—According to *Commerce Reports*, the production of sodium and sodium peroxid is being rapidly increased in the United States where there is an enormous demand for the peroxid and cyanid, the former being chiefly used in bleaching operations and the latter for metallurgy. They are made from metallic sodium which is obtained from caustic soda and from Chile saltpeter or sodium nitrate, the by-product in the latter process being nitric acid, by the electric process.

INTRASPINAL INJECTIONS OF MERCURIALIZED SERUM IN A CASE OF SPASTIC PARAPLEGIA

B M EDLAVITCH, M D
FORT WAYNE, IND

Our knowledge as to the cause and treatment of many types of disease of the nervous system is very limited Practically nothing definite about their etiology is known, and no successful method of treating them has been suggested or developed up to the present

The treatment of syphilitic disease of the central nervous system by subdural injections of therapeutic material has been established on a rational and safe basis by the work of Swift and Ellis [1] The introduction by Byrnes[2] of a nontoxic preparation of mercury in the form of mercurialized serum for intraspinal use has added another efficacious remedy for the treatment of cerebrospinal syphilis

In view of the successful results following subdural therapy for neurosyphilis the possibility of intraspinal injections in some types of nonsyphilitic disease of the nervous system naturally suggested itself In this connection the report of the following case may be of interest and perhaps of some value

REPORT OF CASE

History—Mr W T, farmer, aged 28 of the central part of the state, complained of trouble with his digestion, of soreness over his stomach, and that his walk was very bad The family history was negative About six years previous to the time he came under observation he had had typhoid fever, the course of which was not especially severe He denied venereal infection His habits were good

The present illness began insidiously about four years previously The first thing he noticed was that his body would get warm and that his legs would tend to get stiff One day while at work he felt his whole body become "feverish," and after that both his legs seemed to become quite stiff The stiffness promptly disappeared, but he found that he could not run as well as he usually could From that time on his walk got slowly but steadily worse Early in the course of the trouble he noticed a "numbness" in the right leg and some time later numbness in the other leg He got worse after exertion and seemed to feel better after rest His general condition also had become steadily worse Constipation began with the onset of his trouble He had been unable to work for nearly three years and said he had lost about 25 pounds in weight in the previous year He had spent much time in one of our leading sanatoriums Later he was seen by a well known neurologist who recognized the disease and emphasized its hopelessness

Examination—The patient walked with a typical spastic gait—not ataxic—using two canes The superficial reflexes were increased, and the knee jerks were greatly exaggerated Definite ankle clonus and dorsal flexion of the great toe were obtained easily on both sides No real patellar clonus could be elicited Physical examination otherwise was entirely negative. There were no sensory and no sphincter disturbances There was no atrophy The urine was normal The blood was normal the Wassermann test negative Lumbar puncture yielded 10 c c of clear, colorless fluid under increased pressure The fluid contained globulin +, cells thirty, and gave a negative Wassermann

Diagnosis—Spastic paraplegia (lateral sclerosis)

Treatment—The patient was told in unmistakable language that there was no drug or treatment that was known to have a curative effect in this disease and that since there was nothing else to be done perhaps intraspinal treatment might be tried This treatment was merely suggested, not urged He was allowed to decide for himself After a delay of a month he decided to take the chance Within the next seven months (April 9 to November 13) he received one injection of neosalvarsanized serum and nine of mercurialized serum intradurally The former was given for the purpose of noting his reaction to intraspinal injection, for I had not yet had any personal experience with the procedure in nonsyphilitic disease The mercurialized serum was supplied through the courtesy of Dr Charles M Byrnes, the originator of this serum It was administered by means of a syringe after the simplified method suggested by Warfield[3] The reactions were all rather mild in this case and were more marked at the beginning than at the end of the course of treatment

Clinical Result—There was soon noticed a slow but steady improvement in the gait It is still spastic of course, and no doubt always will be, but the change in the character of the patient's walk has been quite striking indeed All of his other symptoms have disappeared The superficial reflexes knee reflexes ankle clonus and Babinski are all practically unchanged up to the present, and since they are dependent on irreparable degenerative changes that have already taken place no change in them is to be expected The spinal fluid which at first contained globulin + and thirty cells, and was under increased pressure, now comes out under normal pressure and shows no increase in its globulin content and only two cells Definite symptomatic improvement coincident with a return of the spinal fluid to normal thus constitutes the extent of the clinical change up to the present

REMARKS

In view of the recent studies on the cerebrospinal fluid, especially in its relation to neurosyphilis, intradural therapy in an obscure type of organic nervous disease would seem to be indicated Possibly some of these obscure diseases may be manifestations of an infectious process of some sort, the nature of which is not known No matter what the etiology may be, the most effective way to reach the seat of the pathologic process is by direct subdural injection of the therapeutic substance In the absence of exact knowledge on the cause and nature of these diseases, no curative drugs are known at present Under the circumstances Byrnes' mercurialized serum suggests itself as a drug that might be tried The result apparently obtained in this case suggests the possible value of this serum Such a result may have been merely a coincidence Probably not every case will improve under this form of treatment Neither does every case of cerebrospinal syphilis improve under intraspinal therapy Each case may be judged on its own merits, and if in any case of chronic disease of this kind some real improvement can be brought about by intraspinal injections, this method of treatment seems to be justified

---

[1] Swift and Ellis The Treatment of Syphilitic Affections of the Central Nervous System with Especial Reference to the Use of Intraspinous Injections Arch Int Med September 1913 p 331

[2] Byrnes, C M The Intradural Administration of Mercurialized Serum in the Treatment of Cerebrospinal Syphilis THE JOURNAL A M A Dec 19 1914 p 2182

[3] Warfield L M A Simplified Method for the Intrameningeal Injection of Neosalvarsan in Syphilis of the Nervous System THE JOURNAL A M A Dec 26 1914 p 2287

The Harrison Narcotic Law—The United States District Court for the Western District of Washington has decided that Section 8 of the Harrison Narcotic Law providing that the possession or control of the habit-forming drugs named in the act by a person who is not registered and who has not paid the special tax is unlawful, is constitutional and that such possession or control is made presumptive evidence of a violation of the act Congress had the right to make it unlawful to have in his possession or control the unlawful article by any person who has not registered or paid the special tax

Therapeutics

ACIDOSIS IN CHILDREN

The part which this condition plays in the terminal symptoms of acute and chronic disease is not sufficiently recognized It has long been known that acidosis is a termination in diabetes mellitus, but that this serious condition may occur in any acute disease when there is prolonged vomiting, starvation, or even when the food is for a long time starch-free, is not always known or often guarded against The vomiting after anesthesia, and the long continued administration of albumin water or other pure protein food after operation predisposes to acidosis, and collapse, shock and gastric disturbance are often due to this factor To guard against the acidosis related to continued vomiting after a surgical operation, starch should be given in any pleasant assimilable form in large quantities, when possible, for two or three days before the operation Also, there should not be a too long starvation period before an operation is done Much prostration will be prevented by such care Egg albumin water is not a good food, and as soon as possible some starch food should be given after the operation In typhoid fever, in pneumonia, in septicemia and in all prolonged illnesses starch should constitute part of the food A too long starch-free diet predisposes to this type of acidosis, and in serious illness the necessity for the feeding of some starch and some sugar is often forgotten In the pernicious vomiting of pregnancy and in other forms of starvation it has been shown that acidosis will develop, and that the ammonia nitrogen increase in the body, which occurs in these conditions, is a source of danger

The treatment of acidosis, or its prophylaxis is the administration of alkalies, principally sodium bicarbonate Alcohol also aids in preventing acidosis

While adults are not exempt from gastro-intestinal disturbances that may cause a condition of acidosis, children often suffer from the condition, and it may even occur in epidemic form among young children

Metcalf[1] studied 100 cases of acidosis in young children that occurred as an epidemic in Concord, N H His description of this condition is so well presented that a review of it will aid in making the diagnosis and instituting the proper treatment The age of the child attacked in this epidemic varied from 1 to 13 years, 80 per cent of the cases occurring in children between 2 and 8 years of age No single food or indiscretion in diet was the cause If milk or water caused the disease, it was not proved Neither starvation nor excessive fat intake were causes of any constancy Seventy per cent of the children had some nose, throat or lung infection either preceding or complicating the acidosis, eighty-four had never suffered from anything similar to this acidosis attack

In eighty-six cases the onset was sudden, and generally the disease began with vomiting The most prominent symptoms were coated tongue, drowsiness, thirst, flushed face, prostration, diarrhea (about one third of the cases) and cerebral symptoms The fever varied from a little above normal to 104, while in some of the most serious cases there was a low temperature The pulse was always rapid, and followed the temperature, the higher the temperature, the higher the pulse rate With the prostration there was frequently a paleness about the mouth, quite noticeable There is often dyspnea, and acidosis in any condition is a common cause of dyspnea The urine was scanty in 50 per cent of the cases and generally clear, though other observers have found it frequently cloudy Acetone was present in every case, even within a few hours after the onset of the sickness, and always persisted until after the urine became alkaline under the treatment Of forty-five cases examined, diacetic acid was present in fifteen It is a danger signal, and if the patient recovered, it disappeared from the urine before the acetone disappeared

Recovery under proper treatment may be rapid especially in mild cases The average duration of fatal cases was thirty-two hours, nine patients died No specific germ was found in any of the cases examined

TREATMENT

The treatment, from start to finish, consists of the administration of alkalies, either sodium bicarbonate or potassium or sodium citrate Most children can take and retain large doses of these drugs A few did not retain the alkali when given by the mouth In these cases the alkali was given by the rectum The doses must be large to combat the acidosis quickly The quicker the urine is rendered alkaline the better for the child Four grams (60 grains) of sodium bicarbonate every two hours is about the amount desired, according to Metcalf Smaller amounts act much more slowly Full doses will alkalinize the urine in from twenty-four to thirty-six hours The more serious the symptoms, the more necessary it is to push the alkali Sodium bicarbonate may be given as follows

	gm or c c	
℞ Sodii bicarbonatis	20	ʒ v ss
Aquae	200	fl℥ vi

M Sig Two teaspoonfuls in an equal amount of water *every thirty minutes*

This dose is for any age, and is to be continued until the urine is alkaline, or at least until eight doses have been taken The frequency may then be reduced to once in two hours, and then the dose may be given more or less frequently, depending on whether or not the urine is alkaline If the intoxication is serious, the dose should be given every fifteen or twenty minutes

If the medicine is not retained, peppermint water or wintergreen water may aid in its retention, or it may be given by rectum, 2 grams (30 grains) in 2 ounces of water, every hour Or potassium or sodium citrate may be substituted

	gm *or* c c	
℞ Potassii citratis	40	ʒ ix
Aquae gaultheriae	200	fl℥ vi

M Sig Two teaspoonfuls, in an equal amount of water, every thirty minutes

This dose is for any age, and should be continued, increased or diminished in frequency as described for sodium bicarbonate, depending on the condition Whatever the alkali used, it should be continued for several days in diminishing frequency of dosage even after the acute symptoms have subsided

It may be noted that if the urine is made long alkaline, ammonium compounds may appear in the urine, and in infants who wear diapers this ammonia may combine with any alkali present in the diaper, such as "soap, lye, lime or stool,"[2] and cause severe irritation of the buttocks Hence in these cases the diapers must be thoroughly cleansed of all soap

---

[1] Metcalf C R Acidosis with Autointoxication in Infants and Children, Am Jour Dis Child, January, 1915, p 28

[2] Zahorsky, John The Ammoniacal Diaper in Infants and Young Children, Am Jour Dis Child, December, 1915, p 436

The best diet as soon as vomiting has ceased is probably barley water, oatmeal water, rice water, and soon afterward cereal gruels

Thirty-five of the hundred patients had diarrhea Metcalf does not suggest a cathartic, either for the constipated cases or for those with diarrhea, but the large amount of alkali may cause catharsis For some time the diet should probably be low on fats, although Metcalf did not find that excessive feeding of fat was a cause of the acidosis in his cases

He occasionally used morphin when there was great "excitement" It would seem that small doses of chloral would be better, unless it were advisable to give the morphin hypodermically

In very serious cases, not improving under the alkaline treatment pushed by the mouth or rectum, it would seem good treatment to give intravenously Ringer's solution, the amount depending on the age of the child Ringer's solution is as follows

	Gm or c c		
℞ Sodii chloridi	9		gr cxxxv
Calcii chloridi		24	gr iv
Potassii chloridi		42	gr viss
Sodii bicarbonatis		20	gr iii

M et fac chartulam 1

Sig To be added to a quart (1,000 c c) of distilled, or at least boiled, water

This may be made into sterilized tablets and kept ready for use

SUMMARY

1 It seems unprofitable to discuss theories of the cause of this acute acidosis until more scientific data have been developed Suffice it to say that an overworked or disturbed liver seems to be unable to care for the fat offered it, and acetone products and resulting acidosis are the consequence Whether a toxin is formed in the intestine or is absorbed from some distant infection, or from an infection of the nose, throat or lungs (as apparently so prominent in Metcalf's cases) which interferes with the liver activity, is not known Many conditions might furnish such a toxin There is probably always severe liver disturbance in the acidosis of diabetes mellitus

2 Acetone bodies are neutralized by the sodium, potassium or calcium of the blood and tissues Hence the great loss of these alkaline elements if the acidosis persists, and the need for large amounts of alkaline salts to save the patient

3 The fact that such epidemics of acidosis can occur presupposes that isolated cases may occur, as in any other condition

4 If a child suddenly is taken seriously ill with symptoms similar to those described above acidosis should be considered, as well as a beginning meningitis, hence the urine must be obtained and examined for diacetic acid and acetone A modified alkaline treatment can do no harm to any other condition, and should be started before ascertaining the presence or absence of acetone bodies If acetone is absent and there are cerebral symptoms, spinal puncture for diagnosis is indicated With acetone absent and with diarrhea, a careful examination of the feces for pathologic germs and to ascertain the character of the digestion should be made Also, a blood count should be taken, and the Widal test made Such immediate examinations will save many lives

INFANTILE DIARRHEA

It should be noted that many of Metcalf's patients had diarrhea as a symptom, and in this connection the findings of Day and Gerstley[3] are of interest They carefully studied twenty-two cases of diarrhea in infants, and found that eighteen of these were not due directly to maldigestion or to any pathologic intestinal germ, but were due to some infection of some other part of the body

Only two of these cases were due to food disturbance, associated with increased temperature, greenish, watery stools, and with no abnormal germs in the feces, and no remote source of infection These patients rapidly recovered with a diet of tea for the first twenty-four hours, and, later, breast milk

Two patients showed the gas bacillus in the feces In these cases withdrawal of food did not stop the fever or the symptoms, but the patients recovered under albumin milk Buttermilk is also at times a cure for the gas bacillus diarrhea

As just stated, the other eighteen patients of this series had some distant infection, with diarrhea as a secondary symptom

These observers urge that if an infant with diarrhea does not rapidly improve after twenty-four hours of starvation, with a diet of water or tea, the feces should be examined for abnormal bacteria and the urine for acetone, and every possible source of infection in any other part of the body should be investigated The treatment, if pathologic bacteria are found in the feces, depends on the germ present If acetone is found in the urine, the treatment is as presented above, alkalies in large doses Any localized infection should, of course, be properly treated

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK "NEW AND NONOFFICIAL REMEDIES"

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION BUT THAT, SO FAR AS KNOWN, IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL

W A PUCKNER, SECRETARY

ERGOTININE CITRATE-ROCHE —A non-proprietary brand complying with the standards for ergotinine citrate (see N N R, 1915 p 115)

Manufactured by F Hoffmann LaRoche and Co Basel Switzerland (The Hoffmann LaRoche Chemical Works New York)

HOMATROPINE HYDROCHLORIDE-ROCHE —A non-proprietary brand complying with the standards for homatropine hydrochloride (see N N R 1915 p 57)

Manufactured by F Hoffmann LaRoche and Co Basel Switzerland (The Hoffmann LaRoche Chemical Works New York)

SEIDEN PEPTONE-ROCHE (Silk Peptone) —A non-proprietary brand complying with the standards for silk peptone (see N N R 1915 p 335)

Manufactured by F Hoffmann LaRoche and Co Basel Switzerland (The Hoffmann LaRoche Chemical Works New York)

THEOBROMINE AND SODIUM ACETATE-ROCHE —A non proprietary brand complying with the standards for theobromine sodium acetate (see N N R, 1915 p 371)

Manufactured by F Hoffmann LaRoche and Co Basel Switzerland (The Hoffmann LaRoche Chemical Works New York)

---

[3] Day A A and Gerstley J R A Study of Certain Cases of Infantile Diarrhea During the Summer of 1914 Am Jour Dis Child March 1915 p 233

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION

535 North Dearborn Street Chicago, Ill.

Cable Address "Medic, Chicago"

Subscription price Five dollars per annum in advance

Contributors, subscribers and readers will find important information on the second advertising page following the reading matter

SATURDAY, JANUARY 29, 1916

A FALLACY REGARDING THE INTERRELATION OF THE SUPRARENALS AND THE PANCREAS

In a prefatory note to the new journal *Fermentforschung*, the editor, Professor Abderhalden of Halle, remarks that hypotheses will be welcomed in its columns because they are so often the inspiration to progress and the incentive for fruitful investigation. While this is doubtless true in no small measure, every critical student of scientific medicine realizes how much easier it is to get wrong views and mistaken conclusions into print than it is to eliminate them later. From decade to decade the uncritical makers of books hand down the follies of past assumptions, and a fabric of untenable conceptions becomes perpetuated until the impression finally prevails that these represent the truths rather than the fictions of science. Elliott justly warned against building on insecure foundations when he said, "Medicine owes no debt of gratitude to those who teach her theories without proof."[1]

Many statements have been made concerning mutual relations said to exist between the organs of internal secretion. Such statements are usually based on extremely slender evidence. It is doubtless true that certain common bonds exist between such glands as the suprarenals, thyroids, pituitary bodies, etc. Suppression of one often leads to enlargement of another, and the clinical indications of possible interdependence are manifold, though they are usually rather vague and complicated. If undue enthusiasm in the field of the physiology and pathology of internal secretions and the functions of the endocrine glands has led to extravagant statements or unfounded conclusions, it becomes a scientific duty to unravel the difficulties or disclose the errors that have been perpetuated.

A task of this sort has recently been undertaken at the Mayo clinic by Mann and Drips.[2] Numerous experiments have been reported, the results of which tend to suggest the existence of a specific functional relationship between the suprarenals and the pancreas. Thus the suprarenal secretion is believed to mobilize carbohydrates, whereas the pancreas facilitates their utilization. In a sense these two functions either antagonize or supplement each other. It has been maintained, on the one hand, that the injection of epinephrin decreases or inhibits the flow of pancreatic juice and that the removal of the suprarenals increases the pancreatic secretion. On the other hand, this inhibitory effect has been demonstrated to be due to the vasoconstriction produced by epinephrin rather than to any specific effect on the pancreatic gland. Mann and Drips have furnished an illustration of the ease with which mistaken conclusions may be drawn in these matters. They note that the pancreas develops a characteristic pink color and its blood vessels are injected to a maximum degree after double suprarenalectomy. This hyperemic condition of the pancreas does not take place, however, until there is evidence that arterial tone is decreasing in the other organs. The increased flow of pancreatic juice after removal of the suprarenals — a point which has been brought forward as evidence of the normal inhibitory influence of the suprarenals on the pancreatic function — is little greater than that which occurs in normal animals under the same conditions as regards blood pressure, etc., and it does not exceed the increase incident to the trauma from the removal of only a single suprarenal. The flow, furthermore, is insignificant in comparison with the actual secretion during the process of digestion. Again, there is a marked decrease in the zymogen content of the pancreas in suprarenalectomized animals, but this is merely proportionate to the time of low blood pressure.

All the changes emphasized are incident to the moribund condition of suprarenalectomized animals. They do not demonstrate any specific relationship whatever between the suprarenals and the pancreas, for, as Mann and Drips correctly conclude, all the changes found in the pancreas grossly, histologically and functionally, after removal of the suprarenals can be accounted for by the changes in general taking place in the organism as a whole, due to decreased blood pressure, decreased temperature, and the other changes incident to the exhibition of a moribund condition.

THE DANGERS OF RUBBER MANUFACTURE

The rubber industry in the United States is important, employing tens of thousands of men and women, and increasing continually. Whether or not it is attended with risk to the health of those engaged in it, and is to be classed as a dangerous trade, most of us would be unable to say. In Germany and France it is considered a decidedly dangerous trade, and many cases of poisoning from carbon disulphid used in vulcanizing rubber are recorded in the literature of those countries. In one rubber manufacturing city, Leipzig, Laudeheimer[1] found fifty cases of carbon disulphid insanity in Flechsig's clinic, and this substance is still largely used in German rubber works In a recent French publication[2] are described eight cases of mental breakdown among thirty men who were using carbon disulphid in pasting rubber strips on belting In the British reports of earlier years, this poison and naphtha (used in making rubber cloth with a paste of rubber and naphtha) were said to be the cause of much ill health and serious nervous troubles among girls especially, and though the use of carbon disulphid has been largely given up now, the fumes of naphtha are still a troublesome feature in British rubber works Another volatile poison frequently mentioned in continental reports is benzene (benzol, C_6H_6), more poisonous than benzin and naphtha, and cheaper than the latter over there

---

[1] Elliott, T. R. Ductless Glands and the Nervous System, Brain, 1913, xxxv, 320.

[2] Mann, F. C., and Drips, Della The Relation of the Adrenals to the Pancreas, Arch. Int. Med., 1915, xvi, 681.

A bulletin dealing with the use of poisonous substances in the rubber industry in this country has just been issued by the federal Bureau of Labor Statistics[3] as part of a series on industrial accidents and hygiene The basis of this report is an investigation of rubber factories in different parts of the country manufacturing all varieties of goods It is surprising to learn that so many poisonous substances are used in this industry The list includes lead compounds, such as litharge, the basic sulphate of lead, the basic carbonate of lead, and red lead, anilin oil, sulphids of antimony, petroleum products, coal-tar benzene, carbon disulphid, and carbon tetrachlorid In addition to these compounds, concerning which definite information could be obtained, Dr Alice Hamilton, who prepared the report, learned of the use in reclaiming rubber, of various phenols of different degrees of crudity, and also of pine oil, turpentine, tar, and a product of the action of carbon disulphid on anilin known as thiocarbanilid The rubber industry has many trade secrets, and information about all the compounds in use, especially in rubber reclaiming, was difficult to secure

In spite of this array of poisons, the report does not characterize the rubber industry in this country as an inherently dangerous trade What danger there is, and it is evident that most factories are far from safe in certain departments, comes from carelessness in the handling of poisons so that preventable dusts and fumes are allowed to escape This was found to be true in almost all the factories inspected, even the best That such accidents are not more generally known is explained by the fact that out of the whole force in a plant only a small proportion engage in work exposing them to poisoning, so that even if the sickness rate among them is high, it makes little impression

In comparing American methods of manufacture with the European, the advantages are seen to be on the American side We do not use carbon disulphid in vulcanizing to any great extent Dr Hamilton states that she found only 130 men using this substance in all the factories visited, and she contrasts this with a statement of the German factory inspectors' report for 1910 concerning a single factory in which the installation of a certain machine had replaced the work of 150 women vulcanizers No women do this sort of work in America Another reason for the comparative safety of rubber work in America is that most of our rubber cloth is made on calenders, by pressing thin sheets of rubber into the fabric, and then vulcanizing by heat In England and on the continent the usual method is by "spreading," that is, pressing a paste of rubber and naphtha or benzene into the fabric and then letting the volatile part evaporate, and finally vulcanizing by means of carbon disulphid This method is used also in America, but only exceptionally, as benzene is too expensive to be used in large quantities

These advantages are great, yet according to the report they are not sufficient to make the industry altogether free from danger, in the absence of proper precautions Consequently lead poisoning is not uncommon among the men employed in compounding rubber and mixing it on the mills Acute, severe benzin or naphtha poisoning is said to be rare, but mild chronic poisoning is probably very common among the men and women who apply rubber cement The toxicity of antimony pentasulphid was so much in doubt, being practically ignored by the toxicologists, that the bureau asked Prof A J Carlson to determine whether or not there was any danger in the use of this compound Carlson's report is found in the appendix to the bulletin He tested the golden and the crimson sulphids with human gastric juice, and found that about 3 per cent of the former and 8 per cent of the latter passed into solution, showing that there is a possibility of poisoning in the case of workmen exposed to large quantities of the dust, as is true in rubber compounding

Carbon disulphid is said to be unknown as an industrial poison to physicians in this country, even to those in rubber towns, yet the investigators were able to discover cases of carbon disulphid psychosis and paralysis among the vulcanizers of dipped goods and the splicers of inner tubes for tires Dr Hamilton suggests that other cases would perhaps come to light if the industrial history of the inmates of certain Ohio insane asylums were studied as Laudenheimer studied those in Leipzig

Carbon tetrachlorid is a new substance in the rubber industry, introduced because of its noninflammable character to take the place of the highly inflammable carbon disulphid as a vehicle for sulphur monochlorid in vulcanizing thin or highly colored goods, or in splicing inner tubes Waller[4] in England and Leh-

---

[1] Laudenheimer Die Schwefelkohlenstoffvergiftung in Gummiarbeiter Leipzig 1899

[2] Briau Lyon med 1912 cxix 897

[3] Hamilton Alice Bull 179 U S Bureau of Labor Statistics

[4] Waller and Veley Lancet London 1909 ii 369 1162 1307

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

535 North Dearborn Street Chicago, Ill

Cable Address "Medic, Chicago"

Subscription price Five dollars per annum in advance

Contributors, subscribers and readers will find important information on the second advertising page following the reading matter

SATURDAY JANUARY 29 1916

A FALLACY REGARDING THE INTERRELATION OF THE SUPRARENALS AND THE PANCREAS

In a prefatory note to the new journal *Fermentforschung,* the editor, Professor Abderhalden of Halle, remarks that hypotheses will be welcomed in its columns because they are so often the inspiration to progress and the incentive for fruitful investigation While this is doubtless true in no small measure, every critical student of scientific medicine realizes how much easier it is to get wrong views and mistaken conclusions into print than it is to eliminate them later From decade to decade the uncritical makers of books hand down the follies of past assumptions, and a fabric of untenable conceptions becomes perpetuated until the impression finally prevails that these represent the truths rather than the fictions of science Elliott justly warned against building on insecure foundations when he said, "Medicine owes no debt of gratitude to those who teach her theories without proof"[1]

Many statements have been made concerning mutual relations said to exist between the organs of internal secretion Such statements are usually based on extremely slender evidence It is doubtless true that certain common bonds exist between such glands as the suprarenals, thyroids, pituitary bodies, etc Suppression of one often leads to enlargement of another, and the clinical indications of possible interdependence are manifold, though they are usually rather vague and complicated If undue enthusiasm in the field of the physiology and pathology of internal secretions and the functions of the endocrine glands has led to extravagant statements or unfounded conclusions, it becomes a scientific duty to unravel the difficulties or disclose the errors that have been perpetuated

A task of this sort has recently been undertaken at the Mayo clinic by Mann and Drips[2] Numerous experiments have been reported, the results of which tend to suggest the existence of a specific functional relationship between the suprarenals and the pancreas Thus the suprarenal secretion is believed to mobilize carbohydrates, whereas the pancreas facilitates their utilization In a sense these two functions either antagonize or supplement each other It has been maintained, on the one hand, that the injection of epinephrin decreases or inhibits the flow of pancreatic juice and that the removal of the suprarenals increases the pancreatic secretion On the other hand, this inhibitory effect has been demonstrated to be due to the vasoconstriction produced by epinephrin rather than to any specific effect on the pancreatic gland Mann and Drips have furnished an illustration of the ease with which mistaken conclusions may be drawn in these matters They note that the pancreas develops a characteristic pink color and its blood vessels are injected to a maximum degree after double suprarenalectomy This hyperemic condition of the pancreas does not take place, however, until there is evidence that arterial tone is decreasing in the other organs The increased flow of pancreatic juice after removal of the suprarenals — a point which has been brought forward as evidence of the normal inhibitory influence of the suprarenals on the pancreatic function — is little greater than that which occurs in normal animals under the same conditions as regards blood pressure, etc , and it does not exceed the increase incident to the trauma from the removal of only a single suprarenal The flow, furthermore, is insignificant in comparison with the actual secretion during the process of digestion Again, there is a marked decrease in the zymogen content of the pancreas in suprarenalectomized animals, but this is merely proportionate to the time of low blood pressure

All the changes emphasized are incident to the moribund condition of suprarenalectomized animals They do not demonstrate any specific relationship whatever between the suprarenals and the pancreas, for, as Mann and Drips correctly conclude, all the changes found in the pancreas grossly, histologically and functionally, after removal of the suprarenals can be accounted for by the changes in general taking place in the organism as a whole, due to decreased blood pressure, decreased temperature, and the other changes incident to the exhibition of a moribund condition

THE DANGERS OF RUBBER MANUFACTURE

The rubber industry in the United States is important, employing tens of thousands of men and women and increasing continually Whether or not it is attended with risk to the health of those engaged in it, and is to be classed as a dangerous trade, most of us would be unable to say In Germany and France it is considered a decidedly dangerous trade, and many cases of poisoning from carbon disulphid used in vulcanizing rubber are recorded in the literature of those countries In one rubber manufacturing city, Leipzig, Laudegrowing measure Some of the by-products like yeast are still thrown aside as worthless refuse, but the modern efficiency movement will soon change this extravagant practice After all, even though the mere energy losses directly involved in the fermentation process may not be enormous, the primary question of importance to mankind is not whether such losses of nutrient calories are great or small, but rather whether the alcoholic products produced represent a wholesome addition to our stock of food The growing world-wide movement against alcohol is pointing to the answer "The laboratory and the life insurance records simply give exact expression to what has long been a matter of common knowledge to the employer of labor and to leaders and commanders of men, to wit, that the influence of alcohol on any large group of men, whether they be artisans or soldiers, is harmful and lowers the efficiency of the group Individual susceptibility varies, but the man who thinks he is an exception and can indulge with safety may find that he is mistaken only after serious damage to the body has been done and perhaps a definite loss sustained in happiness and achievement "[3]

---

[1] Elliott, T R Ductless Glands and the Nervous System, Brain, 1913, xxxv, 320

[2] Mann F C, and Drips, ella The Relation of the Adrenals to the Pancreas, Arch Int Med, 1 15, xvi, 681

THE PREVENTION OF CARDIAC DEFECTS

The importance of heart disease as a factor in economic waste is apparent to all those who think of the public health from the point of view of preventive medicine Effective emphasis on this point has been made in two recent reports Dublin[4] has pointed out, as a result of a study of the industrial population of Massachusetts, that the chief variation in mortality rates for 1914 between the industrial and general population is in pulmonary tuberculosis, which causes 13 4 per cent of all deaths in the industrial group and only 9 6 per cent. of the deaths in the general population He has shown, further, that organic diseases of the heart are the chief cause of death throughout Massachusetts, both in the industrial and in the general population Approximately 15 per cent of all deaths were from this cause, comparative figures being given for the four largest cities in the state The rates of the different cities vary to a remarkable degree, the highest being in Worcester, where 21 5 per cent of the total deaths among the industrial population and 15 2 per cent of all deaths are caused by organic heart affections The general death rate for Worcester was 13 1 per cent

It is well known that similar conditions exist in practically all communities In New York City, where the death rate from pulmonary tuberculosis has declined from 421 per hundred thousand in 1870 to 169 in 1914, the rate from heart disease has increased from 74 to 169 in the same period of time If in New York at present the death rate from heart disease is the same as from tuberculosis, why is so much said and done about the prevention of the latter and so little about the former? The answer, no doubt, is partly to be found in the fact that heart disease is not ordinarily communicable or, in the same sense with tuberculosis, preventable The economic waste from untreated cardiac patients, however, and those subjected to industrial maladjustment, is largely preventable

An interesting experiment in work for patients with cardiac disease was initiated by Dr H W Guile at Bellevue Hospital, New York, in 1911 It is essential, in work of this kind, to utilize to the utmost the mechanism for social and medical after-care of discharged cardiac patients In addition, it is necessary to prevent their return to the hospital if possible, to prevent unnecessary suffering, and to restore the more hopeful ones to a measure of economic usefulness Such was Dr Guile's program in the Social Service Bureau of Bellevue and Allied Hospitals An evening class for cardiac patients was opened, one of the social workers at Bellevue assisting and doing also part time follow-up work in the more urgent cases A brief survey of this work has recently been published in the report of the Social Service Bureau for the year 1914 The idea and motive of the work are thus summarized in the report

> The usual career of the cardiac is a downward one, through ignorance of necessary precautions and unsuitable occupation, to invalidism and dependency *We pay* in hospital, charitable, institutional expense *He pays* in suffering Why should we pay for the support of misery when it would cost less to prevent it?

That it would "cost less to prevent it" is shown by various tables, one of which indicates that six patients, who had spent a total of 251 days in the hospital preceding the establishment of the class, did not spend a day in the hospital during the first year after the establishment of the cardiac class This was a saving for these six cases of $439 spent in hospital care by the city In the case of one person ("J W") there was a gain of over $600 in the three years of attendance at the class as compared with the three years previous This gain was not due to increased wages, as his earning capacity remained the same, but to the prevention of wage losses resulting from periods of decompensation, prevented by medical supervision and a change to a suitable occupation No doubt a similar gain could be made in the majority of cases, although medical supervision that ignores the requirements of industrial adjustment seems to be almost useless

The Bellevue experiment has dealt only with comparatively advanced cardiac patients More important is the recognition of all cases, even those with the slightest defect, at the earliest moment It is therefore to be regretted that so little attention has been given here and elsewhere in studying the etiologic factors in these cardiac cases, particularly with a view to ascertaining their preventability Such a study must precede the most important work of education, and would probably result in more careful medical examinations for cardiac defects in schoolchildren, specialized schooling and vocational training for affected children, more emphasis on the control of infectious disease with serious cardiac sequelae, and widespread education regarding necessary precautions and suitable occupations for cardiac patients The problem is really a twofold one the prevention of economic loss as a result of cardiac defects, and the prevention of the cardiac defects The work cited above is a valuable beginning on the former phase of the problem, it is to be hoped that the next few years will see included in our efforts for disease prevention a more conscious attempt to control through educational efforts the factors of infection and bad personal hygiene responsible for a large percentage of preventable cardiac defects, particularly among the school population

---

[3] Fisher Irving, and Fisk, E L. How to Live, New York, 1915 p 242

[4] Dublin L. I Mortality of the Industrial Population in Massachusetts Pub Health Bull, Massachusetts State Department of Health November 1915

THE PINEAL BODY

The current enthusiasm for the subject of the ductless glands, based on the highly interesting and valuable discoveries which have been related to them in the past two decades, has brought with it the necessity of careful critique It is becoming evident that some of the hasty conclusions will need to be cast on the rubbish heap of unprofitable venture in physiologic fields Any statement made today with respect to the better known ductless glands or the functions of their "internal secretions" is likely to be scrutinized with critical eyes and forced to meet the test of experimental or clinical demonstration as well as the logic of science On the other hand, the striking facts that have already been brought to light in connection with a few anatomic structures, once either regarded as insignificant or neglected because of their inaccessibility for observation, have awakened new interest in other structures of this sort

To this category belongs the pineal gland It is interesting as a vestigial remnant of a primitive dorsal eye In certain lizards this organ still presents traces of its original structure, and is found to conform to the invertebrate type of eye It is doubtful whether at any time in the history of vertebrates the pineal eye has been functional Cases have been recorded in which tumors of the pineal body have been associated with obesity, premature sexual development and early maturity On this basis the assumption has been made, for example, that the pineal structure produces a secretion which inhibits the growth of the body and restrains mental and sexual development from exceeding the rate looked on as normal for the adolescent period This view, based on the supposition that pineal lesions are destructive, is by no means compelling, for the retention of function in neoplasms in other glands is not infrequent Tumors of the hypophysis may give rise to symptoms of hyperpituitarism (as seen in acromegaly) rather than to deficient function of the gland, and similarly it is conceivable that pineal tumors may lead, at some stage of their development, to an active stimulating influence rather than to a deficiency symptom Most of the data on the relation of the pineal body to sexual, somatic or mental precocity have been based on clinical and pathologic reports Better directive evidence is to be expected from experimental attempts to induce "hyperpinealism" by feeding pineal extract and to cause "apinealism" or "hypopinealism" by extirpation of the pineal

The latest attempts to study the influence of pineal gland administration are those of McCord,[1] who has fed or injected small growing animals under a variety of conditions His conclusions were that such administration of pineal substances led to a more rapid growth of body than normal, and determined an early sexual maturity The excess in rate of growth was most pronounced (40 9 per cent excess in eleven weeks) in young animals fed with pineal tissue obtained from young animals No tendency to gigantism has followed pineal administration After maximum size was attained, pineal administration appeared to be ineffective Both males and females respond to the influence of pineal substances in rate of growth, but the response has been more definitely manifested in males

The converse method of extirpation of the pineal body has been attempted by very few investigators, and has led to seemingly paradoxic results Surgical interference with a structure so minute as is the pineal and situated almost exactly in the center of the brain between the anterior corpora quadrigemina offers extreme technical difficulties The gland is not easy to recognize when it is exposed amid hemorrhage, it is thus likely to be imperfectly removed, or other portions of the central nervous system may be injured as an incident of the operation At the department of surgery in the Johns Hopkins University, Dandy[2] has succeeded in perfecting a suitable method of pinealectomy which enabled him to study the various phenomena alleged to be associated with pineal function It is unnecessary to review the numerous details of what was observed in the development of the puppies operated on and their subsequent history The uniformly negative outcome of these very careful surgical studies may best be summarized in the investigator's own words Following the removal of the pineal body no sexual prococity or indolence, no adiposity or emaciation, no somatic or mental precocity or retardation has been observed The extirpation experiments seemed to yield nothing to sustain the view that the pineal gland has an active endocrin function of importance either in very young or in adult dogs It is apparently not essential to life and seems to have no influence on the animal's well being The incongruity of these results with the reported somewhat conflicting feeding experiments remains to be cleared up In any event, the pineal body is not indispensable, as is its neighbor, the pituitary gland

---

[1] McCord, C P The Pineal Gland in Relation to Somatic, Sex and Mental Development, The Journal A M A, July 18, 1914, p 23 Second Paper, Aug 7, 1915, p 517 Berkeley, W N, Dana, C L Goddard, H H, and Cornell, W S The Functions of the Pin Gland with Report of Feeding Experiments, Med Rec. New Y 1913, lxxxiii, 835 Dana, C L, and Berkeley, W N The Func of the Pineal Gland, Month Cycl Pract. Med, 1914, xxiii 78

[2] Dandy, W E Extirpation of the Pineal Body, Jour Exper Med 1915, xxii, 237

Current Comment

THE POSSIBLE RÔLE OF CHOLIN IN THE ORGANISM

Cholin, an organic compound long familiar to students of physiologic chemistry as a product of the disintegration of lecithins, has lately attracted renewed attention because of its possible physiologic functions It can easily be produced from a variety of tissues in the body, and is present in considerable amounts in some organs, such as the suprarenals In addition to this actual widespread occurrence of the organic base, and the existence of large sources from which it could readily be derived in the organism, is the fact of a pronounced reactivity of cholin toward some of the physiologic processes Even in small quantities it exerts a prompt effect on the blood pressure, and some of the comparatively simple compounds of cholin, such as might conceivably be formed easily in the body, are of even greater potency Hunt and Taveau[1] have found, for example, that acetyl cholin in doses of less than 0 00000001 gram per kilogram of body weight may cause a distinct fall of blood pressure, thus placing this substance in the category of the most active pharmacologic agents at present accurately known In view of these facts, it is not surprising that the always available cholin or its derivatives have been charged with participation in some of the physiologic functions, and that pathologic consequences have been attributed to the abnormal circulation of cholin To some degree the effects produced by cholin are antagonistic to those exhibited by the familiar epinephrin Accordingly, as Hunt[2] has recently expressed it, the suggestion has frequently been made of late that certain symptoms classed as "vagotonic" (miosis, salivation, bradycardia, pylorospasm, etc) may be due to the presence of abnormal amounts of cholin It has also been suggested that cholin or some derivative of it may be a factor in certain physiologic processes, that, for example, such compounds may function as hormones for the parasympathetic nervous system in the same way in which epinephrin is believed to function as a hormone for the sympathetic nervous system The comparatively easy conversion of cholin into the acetyl derivative whereby its physiologic activity may be increased many thousand times has afforded a very delicate physiologic test for the substance The effect of acetyl cholin on the heart or blood pressure is easily measured by the usual methods of the physiologic laboratory By Hunt's method, 0 00001 mg and probably less of cholin can be detected Hunt[2] has made a "physiologic assay" of the distribution of cholin in the blood and other body fluids under a large variety of conditions in which the compound has been alleged or might be expected to be a pathogenic factor Cases of dementia praecox, chronic meningitis, cerebellar tumor, syringomyelia, congenital hydrocephalus and thyroid disease were examined among others, and experimental nephrectomies and suprarenalectomies were also included In none of these experimental or pathologic conditions was a marked increase in the amount of cholin in the blood serum or cerebrospinal fluid found There was likewise no evidence of the pathologic occurrence of any of the very active compounds of cholin preformed in the blood It is unnecessary to review here further details of Hunt's newest researches Cholin introduced into the circulation disappears from the blood with great rapidity In view of this fact, even with the extremely delicate test now in use, one cannot assert dogmatically that there cannot be some increased production of cholin under pathologic conditions and that cholin may not after all be a factor in the causation of certain symptoms Hunt sums up his own view by saying that at present we have no grounds for believing that cholin does have any significance in physiologic or pathologic processes, however attractive such a hypothesis may be

THE SENSIBILITY OF THE VISCERA

A clinical neurologist, asked to state his opinion of the value of psychology for medical students, replied that the patients and not the physicians should be the psychologists In internal medicine much depends on the ability of the patient to describe and locate accurately his sensations, from the localized pain, the physician must infer the seat of the pathologic process Until recent years, little was understood concerning sensations that were mediated by the abdominal and thoracic viscera, and the mechanism by which any impression is localized on the surface of the body Indeed, it has been claimed[1] that the heart, lungs, arteries and the abdominal viscera were insensitive to stimuli of any sort That perforating wounds of the thorax or abdomen, inflammations and tumors were painful was explained by the fact that the parietal peritoneum was involved The parietal peritoneum was held, by these writers, to be sensitive Lennander's view, which was based on surgical experiences, is curiously at variance with the anociassociation theory of Crile. The latter believes that all insults to tissues register their effects in the chromophil substances of the cells of the central nervous system and the endocrine organs These effects are always in the direction of depletion An enterprising investigator[2] has recently attempted to settle conclusively the question of the sensibility of all parts of the alimentary tract which could be reached by exploratory instruments from either end He desired to determine the various sensations which may be felt in different parts of the alimentary tract, and also to show the localization on the surface of the body of the sensations which were thus aroused His results contribute materially to the symptomatology of internal medicine By means of tubes specially constructed for his work, Boring[2] was able to apply to the wall of the esophagus, the colon and the rectum thermal, mechanical, electric and chemical stimuli With his apparatus, it was possible to regulate the intensity of the stimulus and furthermore to localize exactly on the surface of the body the point to which the internal stimulus was referred The esophagus is sensitive to warmth above 40 C (104 F) and to cold below 35 C (95 F) Temperatures above 60 C (140 F) were felt as heat The sensations from the esophagus are referred either upward toward the throat or downard toward the epigastrium Curiously enough, points between the clavicle and the nipples may be referred in both directions Transverse reference is never more than 1 cm from the midsternal line in either direction Sensations in the stomach are localized much more accurately than in the esophagus Stomach stimuli are always referred to the adjacent anterior body wall Boring's results confirm in large measure the conclusions of Head with regard to the doctrine of referred pain The question of the quality of the visceral sensations is not yet satisfactorily answered Given a sufficiently strong stimulus, some sensation will be aroused Whether the sensation was due to sense organs in the viscus itself or to a diffusion of the stimulus to the adjacent body wall has not been made clear Boring found that hot and cold enemas failed to produce thermal sensations in the colon Such stimuli are sensed as pain It is a significant fact that both esophagus and rectum are much more sensitive to all sorts of stimuli in the region about the external opening These facts indicate that the distinction between protopathic and epicritic sensations which was drawn by Head, Rivers and Sherren, as a result of their experiments on sensory nerves in man, is fundamentally sound

---

[1] Hunt R and Taveau R de Jour Pharmacol and Exper Therap 1909 i 303 Hyg Lab Bull 73 U S P H S 1911

[2] Hunt Reid A Physiologic Test for Cholin and Some of Its Applications Jour Pharmacol and Exper Therap 1915 vii, 301

[1] Lennander K G Ueber die Sensibilitat der Bauchhöhle und uber lokale and allgemeine Anasthesie bei Bruch und Bauchoperationen Centralbl f Chir Feb 23 1901

STRONTIUM SALICYLATE NOT SUPERIOR TO SODIUM SALICYLATE

Sodium salicylate is a valuable drug It is official and cheap, it is the compound generally relied on when salicylate effects are desired And there is no mystery about it With the other salicylates, mystery begins For this reason, such studies as that of Blankenhorn on strontium salicylate[3] are of special value Blankenhorn shows that strontium salicylate possesses no advantages over sodium salicylate, as regards either therapeutic efficacy or freedom from undesirable by-effects He calls attention to the fact that "the salicyl content of strontium salicylate is about four-fifths that of sodium salicylate based on the amount of available anion " The question naturally arises whether this smaller salicylate content may not contribute to the notion that strontium salicylate is less likely to cause salicylism The impression as to the greater freedom of this salt from undesirable by-effects may have arisen in part also from the fact that the more expensive preparations are more likely to be given in small doses than is the cheaper sodium salicylate As Blankenhorn suggests, when once such a tradition gains currency, it will be "lugged along" from one textbook to another, with little or no attempt at critical examination

HAZARDS IN HANDLING GASOLINE

During 1913 in the United States 1,040 persons were burned to death and 3,120 persons injured (a weekly average of twenty persons killed and sixty persons injured) on account of gasoline fires[1] In harmony with experience respecting human ways and human indifference, the increasing use of gasoline and other liquid fuels which are dangerous because of their ready inflammability will probably increase the number of accidents which cause loss of life as well as great damage to property Miscellaneous hazards in the use of the inflammable products exist which lead to leakage of these volatile substances and their ignition by spontaneous and unsuspected methods, as well as those due to obvious carelessness A feature, however, which is not readily comprehended and which is a serious source of danger is the fact that gasoline or gasoline vapor burns, but a mixture of the vapor and air is highly explosive The Bureau of Mines illustrates the situation in these words If one takes the cover off a full pail of tightly enclosed gasoline and applies a match to the surface, the gasoline will flare up and burn as long as the gasoline lasts On the other hand, if one puts a few drops of gasoline in a small tightly enclosed pail, waits a few minutes, and then introduces a flame or an electric spark, a violent explosion will most likely result In the first case the vapor burns as fast as it comes from the gasoline, and mixes with the oxygen of the air, in the second, the oil vaporizes in the pail and mixes uniformly with the air in it to form an explosive mixture, and on ignition explodes Consequently, when one hears of a disastrous gasoline explosion one may be sure that it resulted from the mixing of the vapor from the gasoline with air in the proportions necessary to form an explosive mixture The behavior of illuminating gas, which burns quietly when liberated alone, but explodes when a mixture with air is heated, is quite analogous The public has been slow to appreciate these distinctions, and hence they deserve emphasis At ordinary temperatures, air will hold from 5 to 28 per cent of gasoline vapor As gasoline vapor is about three times as heavy as air, in a room containing a mixture of the vapor with air the vapor is found in largest proportion near the floor According to the government experts there is needed only a small proportion of gasoline vapor to render air explosive — 1 4 cubic feet of the vapor to 97 5 cubic feet of air One gallon of gasoline can under ideal conditions render 2,100 cubic feet of air explosive A dangerous feature of gasoline vapor is that it may travel a considerable distance from the gasoline and there be ignited, the flash traveling back to the container of the liquid and causing a roaring fire in a few seconds

---

[2] Boring, E C The Sensations of the Alimentary Canal, Am Jour Psychol, 1915, xxvi, 1

[3] Blankenhorn, M A Strontium Salicylate, The Journal A M A this issue, p 331

[1] This statement is based on the authority of G A Burrell (Hazards in Handling Gasoline, Technical Paper 127, Dept of the Interior Bureau of Mines, 1915)

Medical News

(Physicians will confer a favor by sending for this department items of news of more or less general interest such as relate to society activities new hospitals education public health etc)

ARKANSAS

Hospital Leased—The trustees of the Michael Meagher Hospital Texarkana, have leased the building to the Sisters of the Incarnate Word of Galveston, for five years The hospital will be renovated at an expense of $15,000 and will be *reopened in a short time.*

Personal.—Dr Claiborne J March, Fordyce, fell at his home, January 14 fracturing his right leg——Dr Edwin P Bledsoe has been appointed superintendent of the State Hospital for Nervous Diseases, Little Rock, succeeding Dr Frank B Young resigned——Drs Patrick Murphy, Little Rock, and Robert E Rowland, El Dorado, have been appointed to vacancies on the staff of the State Hospital for Nervous Diseases, Little Rock——Dr Samuel W Colquitt, Cummins has been appointed penitentiary physician, succeeding Dr William W Coulter, Cummins retired——Dr Alfred G Hearn McGehee, has resigned as division surgeon of the Iron Mountain System and has been succeeded by Dr William H DeClark, McGehee——Dr Morgan Smith, dean of the medical department of the University of Arkansas, Little Rock, who resigned, December 20 has been persuaded to withdraw his resignation——The home of Dr Reuben Y Phillips Malvern, was damaged by a recent fire to the extent of $1 500——Dr Harry H Smiley, Texarkana, has been appointed chief surgeon of the Cotton Belt System, succeeding Dr Charles A Smith, deceased

DISTRICT OF COLUMBIA

Sternberg Memorial.—The Medical Society of the District of Columbia and the Association for the Prevention of Tuberculosis of the District held a joint meeting January 19, in memory of the late Surgeon-General George M Sternberg, U S Army Addresses were delivered by Drs George M Kober, William C Gwynn and Harvey W Wiley

Georgetown Faculty Appointments—Lieut.-Col Edward Lyman Munson M C., U S Army, has been appointed professor of preventive medicine in the medical department of George Washington University and Dr William D Tewskbury, clinical instructor in medicine Drs Louis B Castell, James H Collins, Everett M Ellison and J Ward Mankin have been appointed instructors in pharmacology

Hospital to New Quarters—Columbia Hospital for Women has moved into its new building immediately to the east of the old structure, on the same site. The building was erected under the supervision of Mr Elliott Woods superintendent of the United States Capitol at a cost of $300 000 for construction and $90,000 for maintenance As the hospital is a quasigovernment establishment, the money was provided by Congress

FLORIDA

Personal—Dr William A Claxton Jacksonville started for Montreal January 10 to join the Canadian Army Medical Corps He has been assigned as bacteriologist to the Military Hospital in Cairo Egypt——Dr James M Jackson, Jr, has been reelected president of the Miami Board of Health

Hospital News—Citizens of Manatee are discussing the erection of a hospital in that city——The Jacksonville Free Public Hospital Association is resuming active work and the association proposes to establish a hospital with accommodations for 200 patients It is proposed to have a bond issue of $120,000 for this purpose——Richard C Lake, Tampa, has agreed to erect at his own expense, an annex to the Morton F Plant Hospital for use as an operating department and in addition, completely to equip it. This will cost about $5,000

Society Meetings—At the meeting of the Dade County Medical Society held in Miami, December 2, Dr C Frederick Sayles was elected president, Dr Henry C Babcock, Miami, vice president, and Dr George H Benton, Miami, secretary-treasurer——The Tri-County Medical Society of Lee, De Soto and Polk counties was organized at Bartow, January 3, with an initial membership of thirty Dr J Ernest Brecht, Fort Myers, was elected president, Dr Samuel F Smith, Lakeland, vice president, and Dr Heber P Newman, Bartow, secretary-treasurer

State Health Train.—The demonstration train of the State Board of Health started on its initial trip, January 10 The *train consists of three Pullman cars, the first of which is* used as an office with sleeping and dining accommodation for the demonstrators The second contains the dynamo, sleeping quarters for the train crew, and various models such as the illustration of the Imhoff tank sewerage disposal system, contamination of water in driven or open wells from polluted or service water, a modern dairy, proper feeding and clothing of babies, open-air treatment of tuberculosis and other similar questions of public health In the third car are displayed thirty-six panel posters giving warnings and advice on sanitary subjects and disease prevention and a large stereomotograph On the initial trip the train was in charge of Dr Joseph Y Porter, state health commissioner and Miss F D Herndone, his assistant Surg Carroll Fox, U S P H S, also accompanied the train to inspect health conditions in the state and to observe the workings of this plan of popular sanitary education

GEORGIA

State Board Changes—At a meeting of the State Board of Health, January 11, the resignation of Dr Henry F Harris, secretary, was received and laid on the table and a committee of three consisting of Drs William H Doughty, Augusta, James H McDuffie, Columbus, and Thomas J McArthur, Cordele, was appointed to canvass the field for a successor Dr Howard J Williams, Macon, was elected president, and Dr William H Doughty, vice president of the board

Personal—Dr Olin H Weaver has been elected chairman of the medical staff of the Macon Hospital——Dr W E Quillian was reelected president of the board of health of Atlanta, January 14——Dr William S Elkin Atlanta, has been elected chief surgeon, and Dr William S Goldsmith assistant chief surgeon of the Atlanta, Birmingham and Atlantic Railway Company——Dr William B Orear, Savannah, has been appointed chief surgeon of the Midland Railway——Dr James McFadden Gaston, Atlanta, has returned after seven years' service as a medical missionary in China——Dr Thomas R. Wright, Augusta, has been appointed a trustee of the State Sanatorium, Milledgeville

Public Health in Savannah—According to the report of Dr William F Brunner, health officer of Savannah, the death rate for *1914* in that city was considerably lower than that of any other year since statistics have been kept. Of deaths from natural causes the rate per thousand for four years, 1911-1914 was as follows 24, 21 48 18.98, 18 49, respectively The five chief causes *of death* were tuberculosis, nephritis, pneumonia, heart disease and pellagra Tuberculosis *in the white race shows* a steady reduction each year, but the disease is on the increase among the colored race on account it is said of bad housing conditions The deaths among children under 10 years of age for the four years 1911-1914 were as follows *518, 370, 379, 390* respectively The population during this period increased from 75 000 in 1911 to 81 000 in 1914 There were 124 cases of typhoid fever in the city with sixteen deaths eleven of which were among negroes The health officer deplores the fact that less than 80 per cent of the births were recorded and blames the defective figures on the medical *profession* He somewhat drastically says that it is easier to trace the pedigree of a fine horse, dog or hog in Georgia than of the average citizen The state, during 1914, enacted a vital statistics law but failed to make an appropriation to carry it out The pamphlet also contains the report of the city bacteriologist, Dr Victor H Bassett, which is in a creditable and up-to-date form, as is also the report of the chief food inspector, D C Gillis, D V M, who was appointed after a competitive examination in various cities of the United States

ILLINOIS

Smallpox—H T Fallon, a manual training instructor in the schools of Evanston, was taken to the isolation hospital, January 14, suffering with smallpox Children in the schools have been ordered vaccinated, or they must remain out of school twenty days

Personal—Dr James I Hale, Anna, has recovered after an operation for strangulated hernia performed at St Mary's Infirmary, Cairo, January 13——Dr Leander D Keith, Anna, fell from a buggy, recently, sustaining a fracture of the left arm above the elbow He is said to be making satisfactory progress toward recovery——Dr Charles E Sisson, Elgin, has gone to California to become assistant superintendent and chief of the medical staff of a state hospital——Dr Edward H Weld, Rockford, has been appointed a member of the staff of St Mary's Hospital, Rochester, Minn——Dr Walter A Hodges, Nokomis is reported to have disposed of his property holdings and practice and will locate in Chicago——Dr John H Rice, Quincy, is reported to be seriously ill with disease of the gallbladder——Dr William E Wiatt, East St Louis, is said to be ill with diphtheria

Chicago

Rabies—At Englewood, January 17, five persons were bitten by a dog which was found at the city laboratories to be suffering from rabies The victims were urged to take the Pasteur treatment at the Iroquois Hospital without delay

New Hospital at South Chicago—The finance committee of the board of commissioners of Cook County has promised that plans for building an emergency hospital for South Chicago to cost $100,000 will be considered by the board this year Preliminary plans for the building will soon be submitted

Ophthalmologists Meet—At the annual meeting of the Chicago Ophthalmological Society, January 17, the following officers were elected president, Dr William E Gamble, vice president, Dr Francis Lane, secretary-treasurer, Dr Paul Guilford (reelected), and councilor, Dr J Sheldon Clark, Freeport (reelected)

Chicagoans Far Afield—Dr H Gideon Wells of the University of Chicago was the guest of honor at a banquet at the Fort Pitt Hotel, Pittsburgh, January 18, after which he delivered a lecture before the Allegheny County Medical Society in which he described his original research work on the subject of cancer illustrated by stereopticon pictures——Dr Emil G Beck spoke before the Iowa and Illinois Central District Medical Association meeting at Davenport, January 13, on "Technical Points on the Application of Bismuth Paste in the Treatment of Suppuration"

MARYLAND

Baltimore County Physicians Elect Officers—The annual meeting of the Baltimore County Medical Association was held January 19, and officers were elected as follows president, Dr J Carroll Monmonier, Jr, Catonsville, vice president, Dr Frank C Eldred, Sparrows Point, and secretary-treasurer, Dr Martin F Sloan, Towson

Personal—Two former members of the staff of Johns Hopkins Hospital have been decorated by Germany for their services in the medical corps of the German army Dr Karl H Van Noorden, Jr, who was attached to the medical staff at the Hopkins was decorated with the iron cross of the second class after the battle of Lodz, in which he was shot through the hip Dr Felix Landois, who was also on the surgical staff, organized and is now surgeon-in-chief of a field hospital at Ledeghen, Belgium He has been decorated with the iron cross of the second class and with the Order of Frederick, bestowed by the King of Wurttemberg——Dr Joseph Irwin France, Port Deposit and Baltimore, has announced his candidacy for the nomination for United States senator——Dr George Y Everhart, Hillsdale, a prominent physician of Baltimore County, is reported to be critically ill——Dr William H Bash in charge of the accident ward of Mercy Hospital, Baltimore, has been reappointed——Dr Roy D McClure of the resident staff of Johns Hopkins Hospital has accepted the position as surgeon-in-chief of the Henry Ford Hospital, Detroit

Report of Tuberculosis Committee—The state-wide tuberculosis committee appointed in May, 1915, to study the problem of consumption in Maryland and to make recommendations for a definite state policy in regard to its most important phases, held a meeting January 15, presided over by Dr John S Fulton The report of the committee favors the establishment of county hospitals for negroes suffering from tuberculosis, such hospitals to be established in connection with the present county institutions and the equipment of wards for negro patients in the hospitals of Baltimore and the eight other cities of the state which receive government aid (Cumberland, Hagerstown, Frederick, Annapolis, Elkton, Easton, Cambridge and Salisbury) It suggests that the cheapest investment that the state can make in the prevention of the spread of the disease is the appropriation of $20,000 each to the hospitals in the eight cities reported and of $50,000 to the Baltimore hospitals for the construction of these tuberculosis wards and an allowance of one dollar a day for the maintenance of each patient To provide for patients who could not be allowed without danger to themselves and others to return to their original vocations, the committee suggests tentatively the establishment of industrial colonies in connection with the county hospitals The committee is strongly of the opinion that the most potent force against the spread of tuberculosis is the establishment of hospitals for advanced cases

MICHIGAN

Election—The Antrim, Charlevoix and Emmet Counties Medical Society at its meeting in Petoskey, January 14, elected Dr John J Reycraft, Petoskey, president, Dr Allan M Wilkinson, Charlevoix, vice president, and Dr George W Nihart, Petoskey, secretary-treasurer

Committee of Arrangements for State Meeting—Dr Philip D Bourland, Lake Linden, president of the Houghton County Medical Society, has appointed the following committee on arrangements for the meeting of the Michigan State Medical Society Drs Arthur F Fischer, Hancock, William K West, Painesdale, Peter D MacNaughton, Calumet, James G Turner, Houghton, Neil S Mac Donald, Mohawk, Keweenaw County, and Simon Levin, Lake Linden

Contagious Diseases—At Jackson it was found from the records of the city health department that during the previous ten years $31,000 had been paid to fifty-six physicians for medical attendance on contagious diseases Six of the fifty-six physicians, it is said, received $16,000 of the total amount A new arrangement has been made by which the physician and nurse shall be regularly employed to take care of such cases A change has been made in the quarantine methods in contagious diseases The patient hereafter will be isolated in his home and the working and earning members of the family will be allowed to follow their usual occupations The patient will be under the strict supervision of the contagious disease physician and nurse, and every precaution will be taken to prevent the spread of the disease from the patient

MISSISSIPPI

Malaria—Dr Charles C Bass of Tulane University, New Orleans, has been appointed head of a group of workers to study malaria in Mississippi under the direction of the international health commission Dr Bass will have, as one of his assistants, Dr Foster M Johns, also of Tulane, and will be associated in the work with Dr Waller S Leathers, University of Oxford, head of the health department of Mississippi

Medical Society Meetings—The Lamar-Marion-Pearl River Counties Medical Society met in Lumberton, December 25, and elected the following officers president, Dr Edwin W Mackey, Purvis, vice presidents, Drs Louis C Rouse, Poplarville, Charles C Thompson, Columbia, and Robert W Thompson, Lumberton, and secretary-treasurer, Dr Daniel B Stevenson, Lumberton——George-Perry-Greene Counties Medical Society met at Richton, December 14, and elected the following officers president, Dr Reuben M Cochran Richton, vice presidents, Drs Joseph W Copeland and Russell Graves, both of Richton, and secretary-treasurer, Dr S Lewis Knight, Merrill, reelected——Newton-Winston-Neshoba Counties Medical Association at its annual meeting in Newton, December 18, elected the following officers president, Dr Thomas E Jarvis, Neshoba, vice presidents Drs Thomas W Reagan, Beechsprings, and John S Laird, Union, and secretary-treasurer, Dr Sidney A Majure, Dixon

MISSOURI

Drops Eclecticism.—A report states that the Eclectic Medical University of Kansas City, an institution reported not in good standing by the State Board of Health, has changed its name to the Kansas City College of Medicine and Surgery

Society Gives Smoker—The Kansas City Eye, Ear, Nose and Throat Society gave a smoker at the University Club, January 13, at which fifty physicians of Kansas City, Leavenworth, Atchison, Topeka and St Joseph were present Five papers were presented

Personal—Dr William D Fulkerson, Trenton, has been confined to his home with a severe attack of erysipelas——Dr Ralph E Castelaw, Kansas City, has been appointed superintendent of the new Wesley Hospital, Kansas City——The office of Dr John R. Smith, Warsaw, was destroyed by fire, December 23——Dr Charles A Lusk, Butler, suffered a loss of about $3,000 when his residence was destroyed by fire, December 2——Dr John P Ralston, Springfield, is reported to be critically ill as the result of repeated cerebral hemorrhages——Dr Herbert C Kimberlin, Clarksdale, has been appointed assistant physician of State Hospital No 2, St Joseph, succeeding Dr Calvin L Woolsey, Braymer——Dr Philbert R. Williams, Cape Girardeau is reported to be seriously ill with septicemia due to an infection of the hand——Dr William L Gist has been appointed assistant health commissioner of Kansas City and assistant medical director of the new tuberculosis hospital

St Louis

Virginian in St. Louis—Dr John Shelton Horsley, Richmond Va, was the guest of honor of the St Louis Medical Society January 22, and read a paper on "Blood Vessel Surgery"

Personal.—Dr William W Graves, while skating recently, fell and fractured his arm——Dr Fred T Murphy has joined the American Ambulance at Neuilly, France, and will return to St Louis May 1

Not the Same Rotter—Dr Julius Rotter, formerly of Parsons Kan, was recently convicted of wife abandonment in St Louis and sentenced to six months in the workhouse The publicity given this matter has caused Dr Julius Charles Rotter considerable embarrassment on account of the similarity of the names Dr Rotter is not related in any way to the convicted man

Suit Against Board of Education.—Suit has been filed in the circuit court by several citizens, including three physicians, against the board of education to restrain the board from using school funds to maintain the department of hygiene which conducts the medical examination of schoolchildren The petition alleges that this use of the school fund is not sanctioned by law

NEW YORK

The Disposal of Seized Drugs—Assemblyman Moritz Bloch has introduced a bill providing that habit-forming drugs seized by the New York City authorities be turned over to the Department of Charities and Corrections to be used in the city hospitals, and that outside of New York City such drugs shall be turned over to hospital authorities in such county or municipality as the district attorney directs

New York City

Personal—Dr Max Lubman has been appointed associate otologist to the Har Moriah Hospital New York——Drs Cornelia C Brant, Mary L Hines and Mabel C Sisson have been appointed members of the staff of the Cumberland Street Hospital, Brooklyn

Bronx County Medical Society—At the annual meeting of this organization held January 12, the following officers were elected president, Dr John E Virden vice presidents, Drs J Lewis Amster and Edward F Hurd, secretary Dr Herman T Radin and treasurer, Dr Philip Eichler At the close of the executive session Dr Charles H Mayo, Rochester, Minn., read a paper on "Gallbladder Disease, Its Etiology, Symptoms and Treatment" with accompanying stereopticon views After the scientific meeting a supper was held in honor of Dr Mayo

The Antispitting Campaign.—During the second week of January over 1 500 persons were brought into the magistrates courts for violation of the ordinance forbidding spitting in public places Practically all of these were fined, the fines ranging from $1 to $10 The department of health calls attention to the fact that the chief value of such a campaign lies in its educational effect, and this phase of the campaign is largely dependent on newspaper publicity Hence it is essential that the campaign be so spectacular in character as to gain a high news value This end is better attained by intensive sporadic efforts than by the same amount of effort spread over a period of months which would secure no newspaper attention

NORTH CAROLINA

Chiropractor Guilty—The North Carolina supreme court has recently reversed the decision of the superior court of Guilford County and found O V Siler, a chiropractor, guilty of practicing "for fee and reward, without license, as a nondrug giving physician" Siler had been found guilty by the municipal court of Greensboro, but had been declared not guilty by the superior court Now the decision has again been reversed by the state supreme court

Health Administration—Beginning April 1, in Edgecombe County, there will be placed in charge of the public health interests a U S Public Health Service representative who will endeavor to work out a model county health administration The study will embody the best features of the excellent work now being done in several counties in North Carolina, and as well combine other features believed to be essential to the fullest development of the best values in county health work The progress of the work will be watched with interest by sanitarians within as well as without the state.

PENNSYLVANIA

To Rename Hospital.—As a result of William L. Elkins' latest gift of $250 000 to the endowment fund of the Abington Memorial Hospital, a movement has been started to have the name of the institution changed to the Elkins Memorial Hospital Mr Elkins founded the hospital as a memorial to his wife, Stella M Elkins

Public Service Bureau Appointed—In order to obtain state-wide enforcement of the act requiring the semiannual inspection of all cooks, waiters, kitchen help or other servants employed in hotels, restaurants, dining cars or other public eating places to exclude those suffering from certain communicable diseases from employment, a bureau of public service has been created by State Health Commissioner Dixon

Disinfection—A rule has been made by the board of health at Altoona that hereafter disinfection of rooms in which patients with contagious diseases have been confined will be done free in cases in which the occupants cannot pay Previously a charge of 50 cents per room was made, but it is the opinion of Health Officer Myton that it is the business of the health department to prevent the spread of disease and not to collect fees

Allegheny Physicians Elect.—At the annual meeting and banquet of the Allegheny County Medical Society at Pittsburgh, January 11, the following officers were elected president, Dr William W Jones, vice president, Dr Ellis S Montgomery, secretary, Dr Carey J Vaux and treasurer, Dr William C Bryant Plans were discussed at this meeting for the building of a permanent home for the society to cost $75 000, and Dr William H Mercur, chairman of the permanent home committee, reported that he had already received promises of donations of $1,000 each from twenty-five members of the society

Personal—Dr John A. Fritchey, Harrisburg, is under treatment in the Presbyterian Hospital Philadelphia, debilitated from overwork and influenza——Dr Samuel G Dixon state health commissioner Harrisburg, is reported to be ill with influenza——Dr Harry M Keller Hazelton, has been appointed by the governor a member of the board of trustees of the Hazleton State Hospital——Dr Walter Lathrop, superintendent of the Hazleton State Hospital, who underwent operation in New York City more than a year ago, is suffering from a recurrence of the trouble.——Dr John F Zychowitz South Scranton suffered severe burns of both forearms recently from an explosion of gasoline in his garage——Dr Leonard G Reading, Dunmore fractured his right wrist while cranking his automobile, December 31——Dr William G Marsh Watsontown fell, January 1 fracturing his hip——Dr James M Maurer Shamokin, has been appointed chief surgeon of the Susquehanna Coal Company and has appointed the following assistants Dr

George M Stites, to be in charge at Williamstown and Lykens, Dr Jesse H Hughes, Nanticoke, to be in charge of the Nanticoke district, Dr Ralph W Montelius, Mount Carmel, and Dr Adna S Jones, Shamokin

Philadelphia

Cuban Eye Specialist Lectures — Dr Juan Santos Fernandos, an ophthalmologist of Havana, Cuba, and president of the Cuban Academy of Science, delivered an address in Spanish, January 4, before the Wills Eye Hospital Ophthalmic Society

Pneumonia Commission Appointed — Health Director Krusen has appointed a commission to make intensive study of the causes of grip and pneumonia The members of the commission are Drs David Riesman, Hobert A Hare, Judson Daland, William Egbert Robertson, Randle C Rosenberger, Paul A Lewis and John A Kolmer

Packard Lecture—The Fred A Packard lecture of the Philadelphia Pediatric Society will be delivered at the College of Physicians, Twenty-Second and Chestnut Streets, February 8, at 8 15 p m by Prof Charles M Campbell of Johns Hopkins Medical School, Baltimore, on "The Neurotic Child, Some Familiar Symptoms and Their Problems"

Scarlet Fever at University—Another outbreak of scarlet fever, from which two students died when the contagion first appeared, has occurred at the University Hospital and two nurses have been sent to the Philadelphia General Hospital for Contagious Diseases, a student has been quarantined at his home, and the students' ward in the hospital has been isolated

City Nurses Teach the Little Mothers' Leagues—Under the instruction of seventeen nurses from the Department of Public Health and Charities, "Little Mothers'" leagues were organized, January 11, in seventeen school buildings throughout the city These leagues formed under the auspices of the division of hygiene of the child federation began the study of the essentials of making capable mothers of hundreds of little girls enrolled from among the pupils in elementary schools

Fellowship in Obstetrics—A fellowship amounting to $1,000 has been established at the Woman's Medical College of Pennsylvania, to be awarded by the faculty annually to any medical woman of special ability who, following the medical course, has completed at least one year of hospital service, including work in maternity wards, and one year of further practice The amount is to cover twelve months of special work as fellow in obstetrics, with the condition that the holder of the fellowship shall thereafter continue in the practice of obstetrics

Personal—Dr J William White, who has been ill at the University Hospital for some time, has returned to his home much improved in health——Dr Charles Miller has been appointed chief of the division of vital statistics——Dr Ellwood R Kirby has been appointed medical director of St Mary's Hospital——Dr Daniel J McCarthy, recently returned from the war, was the guest of honor at the annual banquet of the Medical Examiners' Association at the Hotel Walton, January 20——Dr Francis D Patterson has been appointed chief of the division of industrial hygiene and engineering of the bureau of inspection in the state department of labor and industry, succeeding Dr John C Price, deceased——Dr Richard H Harte sailed from New York, January 8, to serve as one of the chief surgeons of the American Ambulance, Paris——Dr Ross V Patterson has been appointed visiting physician to the Philadelphia General Hospital——Dr Carlton N Russell has returned after service with the American Ambulance in Paris——Dr Alexander C Abbott has withdrawn his resignation as a member of the board of health

VIRGINIA

New Hospital Opens—The Newport News General Hospital was opened December 31 St Francis' Hospital closed on the same day and the patients cared for there were removed to the new hospital

New Officers—Richmond Academy of Medicine and Surgery president, Dr William L Peple, vice presidents, Drs St Julian Oppenhimer Oliver F Blankenship and Ramon D Garcin, secretary, Dr Mark W Peyser (reelected), and treasurer, Dr James H Smith

Personal—Dr Joseph A Gale, Roanoke, who has been under treatment in the Johns Hopkins Hospital, Baltimore, is reported to be rapidly regaining his health——Dr Frederick M Hodges, Richmond, has been appointed associate physician in the tuberculosis department of the Richmond City Home——Dr Estelle H Henderson has succeeded Dr John C King, resigned, as superintendent of the Southwestern State Hospital, Marion

WISCONSIN

New Officers—The Milwaukee Medical Society president, Dr Frank C Studley, vice presidents, Dr Albert W Myers and Emerson A Fletcher, secretary, Dr Oscar Lotz, treasurer, Dr Joseph P McMahon——Ashland-Bayfield and Iron Counties Medical Society at Ashland, December 30 president, Dr William T O'Brien, vice president, Dr John V Wenzel, and secretary, Dr Otto Braun

Health Bulletin Boards—Health Commissioner Ruhland has asked an appropriation of $3,000 from the board of estimates of Milwaukee as a publicity fund for health protection and disease prevention He desires to widen the magazine publicity work and also to erect bulletin boards in different sections of the city——The Milwaukee Electric Company has donated to the health department, one advertising space in each car for its daily health protection and disease prevention cards

Personal—Dr Louis A Fuerstenau has been elected president and Dr Robert W Blumenthal, secretary of the Emergency Hospital, Milwaukee——Dr John R McDill, Milwaukee, was honored, January 10, when the senate and assembly of the Philippine Islands adopted resolutions setting forth the high degree of surgical and medical skill of Dr McDill, his great devotion to his patients and his scrupulous observation of the principles of medical ethics——Dr George C Ruhland, health commissioner of Milwaukee, has been ill with influenza

Smallpox—At Racine, January 6, by an order of the board of health, the Lincoln School, which had been closed, December 15, on account of smallpox, was allowed to reopen The epidemic was said to be under control, and the twenty five day period of exclusion of nonvaccinated children from the schools, as provided by the Wisconsin law, had expired There were 123 children whose parents refused to permit them to be vaccinated By the board's order they were to be allowed to go back to school About 300 children were vaccinated during the epidemic——The public school and parochial school in the town of Newton, south of Manitowoc, were ordered closed by the school board, December 21, on account of the discovery of six cases of smallpox in the district

Sanatorium Notes—Muirdale, the tuberculosis sanatorium for Milwaukee County, which was opened in November at Wauwatosa, lacks sufficient facilities for male patients and the superintendent has asked the county board to reopen Greenfield Sanatorium Muirdale can accommodate about 275 patients and now has more than 160 and applications are coming in so rapidly that the capacity of the institution will very soon be taxed——The question of a sanatorium for Waukesha County was discussed by the county board at its December meeting and a committee of three was appointed to procure data, plans for the building and select a site——Fifty acres of land adjacent to the Winnebago County Tuberculosis Sanatorium, Neenah, have been purchased and the land will be used to raise farm products for the institution

CANADA

Gorgas Visits Toronto—Surg-Gen William Crawford Gorgas of the United States Army addressed the Canadian Club, Toronto, January 17, on "Sanitation in Panama"

Students Return—About twenty-five senior students on duty with No 3 Canadian General Hospital in France have returned to Canada to complete their medical studies with a view of returning as medical officers if necessary

Western Universities Offer Battalion—A conference was held of representatives of four western universities in Edmonton, Alberta, January 15 They unanimously decided to offer to the Canadian militia department a battalion to be raised from B C University, Alberta, Saskatchewan and Manitoba

Hospital Staff Soon to Be Mobilized—The immediate mobilization at Toronto of the medical officers and nurses for the staff of the Ontario Hospital at Orpington, Kent County, England, has been ordered from the militia department Ottawa Thirty-two doctors and eighty-one nurses from all parts of Ontario are to be selected It is likely that the commanding officer will be selected from Canadian officers now in England The orders for mobilization have been received by Lieutenant-Colonel Marlow A D M S, Toronto

Hospital News—Sixteen members of No 3 McGill Base Hospital, which has been located in France, have arrived in Montreal to complete their fifth year in medicine Col Herbert S Birkett, in command of the hospital, accompanied them This hospital dealt with over 3,000 cases between August 6 and November 15——Dr Zephyr Rheaume, chief surgeon at the Hotel Dieu Hospital, Montreal, will accompany No 6 General Hospital, Laval University, as chief surgeon with the rank of lieutenant-colonel The hospital was organized by Lieutenant-Colonel Beauchamp This hospital has been changed from a stationary to a general hospital

Personal.—Dr J S McCallum, Smith's Falls, Ont, has three sons somewhere in France All are Canadian university graduates, one, Lieut John S, being attached to the tenth Gloucester regiment as surgeon——Dr Harriet Cockburn, a Canadian physician arrived in New York from Bordeaux, January 19——Drs Kennedy, Wilkes, Wilson, Baby and Neilson formerly noncommissioned officers attached to No 3 Canadian General Hospital, have been commissioned captains in the Canadian Army Medical Corps ——Dr Campbell P Howard of the University of Iowa, who has been on active service for the McGill Hospital in France with rank of major, has returned home——Dr Scott Huntingdon, said to be a prominent physician of Havana, and an American citizen, has offered himself to Sir Sam Hughes, the Canadian minister of militia for overseas service. Dr Huntingdon was recently in Ottawa after giving up his practice in Havana He will be given a commission in the Canadian Army Medical Corps——Dr Charles J Copp, Toronto, honorary secretary-treasurer of the Ontario Council St John Ambulance Association, has been created a Knight of Grace of the Order of the Hospital of St John of Jerusalem in England——Dr Hubert Brown, Cooksville, Ont, has been recommended for medical officer of the One Hundred and Sixty-Ninth Battalion Dr Brown served in the South African War——Lieut-Col Murray Maclaren, St. John, N B, a past president of the Canadian Medical Association and at present commanding officer of a Canadian general hospital in England, has been made a companion of the Order of St Michael and St George——Lieut-Col Arthur Edward Ross, Kingston, Ont, a member of the Ontario legislature, and at present in command of the first field ambulance in France, has been made a commander of the Order of St Michael and St George.——Lieut-Col George Gallie Smith of the Canadian Army Medical Corps, has been rewarded for service to the empire by being made a commander of the Order of St Michael and St George ——Lieut-Col George G Nasmith, Toronto, who is returning to France this month, has been rewarded for service to the empire by being made a commander of the Order of St Michael and St George

GENERAL

Tuberculosis Standardization Committee Appointed—The National Association for the Study and Prevention of Tuberculosis has appointed the following committee on standards for diagnosis of tuberculosis in children chairman, Dr James A Miller, New York City, secretary, Bertram H Walters, New York City, and Drs Glenford L Bellis, Wauwatosa, John Howland, Baltimore, Henry I Bowditch, Boston, John H Lowman, Cleveland, Isaac A Abt, Chicago, and Orville W McMichael, Chicago

Bequests and Donations—The following bequests and donations have recently been announced

St Luke s Hospital Orlando Fla, a donation of $5 000 from a friend in the north

University of Oregon Medical College a donation of $5,000, conditional on obtaining nine other gifts of the same amount Presbyterian Hospital New York City $5,000 by the will of Archibald M Stewart

Chester County Hospital Westchester Pa $6 000 for the endowment of a room in memory of the late Sarah Farley

Philadelphia County Medical Society relief fund the income of four fifths of the estate of Dr William B Banks contingent on the death of his wife his son a friend of his mother s and his son dying without issue

Civic Federation Meeting—The sixteenth annual meeting of the National Civic Federation was held at the New Willard Hotel, Washington D C. January 17 and 18 under the presidency of Mr Seth Low, New York City The chief topics of medical interest presented at the meeting were the reports of Augustus Belmont on "The Status of Workmen's Compensation Laws," by Louis B Schram on 'The Causes of Industrial Accidents," Dr Woods Hutchinson on 'Progress in Industrial Hygiene in Thirty Years," and Dr E E Smith on "Changes in Food and Drug Supplies—Present Needs"

American Dye Stuffs—According to *Commerce Reports,* American dye works are now turning out coal-tar colors at the rate of 15,000 tons annually Before the war in Europe we manufactured only 3,300 tons, made mostly from imported intermediates The total importation of colors before the war was 25,000 tons so that the amount manufactured at present in the United States is still short of the demand The manufacture of what is called coal-tar crudes in this country has assumed large proportions, but at present most of them are absorbed in the manufacture of war munitions There are, however, it is said, twelve firms engaged in turning out finished dyes

Bill for the Care of the Tuberculous—On January 8, Congressman Kent submitted to the House of Representatives a bill to standardize the treatment of tuberculosis in the United States, to provide federal aid in caring for indigent tuberculous persons, and for other purposes The bill provided that the secretary of the treasury be authorized to aid state authorities in providing care and treatment for indigent tuberculous persons who are citizens of the United States, but not legal residents of the state in which they are temporarily located, that public or private hospitals and sanatoriums may be designated to receive such patients, and that from time to time such institutions be inspected by officers of the Public Health Service and their facilities for such treatment investigated The subvention fixed annually by the secretary of the treasury, not exceeding 75 cents per day for each indigent patient, is to be paid toward such hospitals and sanatoriums by the secretary of the treasury, and a similar fee is to be paid by the state Patients must submit satisfactory evidence that they did not leave their local residence in order to receive benefits under this act The bill provides for the publication of information and descriptive matter relative to the institutions and working of the act, and for the publication of estimates as to the cost of carrying out the provisions of the bill

FOREIGN

Prize Awarded to Kopke—Prof Ayres Kopke of Lisbon was recently awarded the prize offered by the Sociedade de geographia of Lisbon for the best work by a Portuguese writer on sleeping sickness

Pure Milk in Guayaquil.—Efforts to secure pure milk for Guayaquil have been embodied in an ordinance which requires that permission must be obtained from the municipal authorities for the operation of a dairy, and only tuberculin tested cows may be kept.

Sanitary Stations in Colombia—Under the law of the Colombian Congress of Nov 8, 1915, the Junta Central de Hygiene (Bogota) has been authorized to begin the construction of a sanitary station at Buenaventura, and $20,000 has been appropriated for the purpose, with an additional $10 000 for the completion of the sanitary station, wards, bacteriologic laboratory and a pier at the Santa Marta sanitary station

Personal.—Drs Ricardo Sarminto-Laspiur and Fernandi Ham, Buenos Aires, who are visiting in the United States, inspected Johns Hopkins Hospital, January 3——Dr Carlos Husk chief surgeon for the Guggenheim mine interest in Mexico, has been chosen to take charge of the typhus situation in Northern Mexico The health expedition will start from Laredo as soon as permission is obtained from President Carranza

Quacks' Signs Come Down in Berlin—The measures enforced by the military authorities against quacks and secret medicines in the German border states have been supplemented by the order for removal of the advertising signs and advertisements of secret remedies from the public comfort stations and the fronts of houses Berlin is in Brandenburg which is the principal of these marches or buffer states and the above measure is said to have been instigated by the Brandenburg medical chamber as the logical corollary of the repressive measures against quackery decreed by the military commander of the marches

Deaths in the Profession Abroad—B V Wicherkiewicz, professor of ophthalmology at the University of Cracow since 1895 aged 68 He was a leader in local medical and civic matters serving as member of the city council, as chief of the voluntary first-aid organization at Cracow and as president of the Polish Medical Association at Posen He founded in 1898 the first Polish ophthalmologic journal and published annual reports from his eye clinic at Cracow and was a frequent contributor to specialist literature His name is connected with a method for iridectomy, for treating immature cataracts by rinsing an operation for trichiasis, etc.——P Heresco professor of surgical diseases of the urinary apparatus at the University of Bucharest, Roumania, aged 47

WAR NOTES

Kaiser's Palace to Be Hospital for Allies—The British government has notified Greece that the summer residence of the emperor of Germany on the Island of Corfu has been taken by the allies for use as a hospital

Facial Wounds—Special hospitals and departments are being established for the treatment of facial wounds and recently $2,000 was appropriated by the American Red Cross for the establishment of a special hospital for this purpose in Paris, and a similar sum has been appropriated for a facial wounds department in the American Ambulance, Neuilly

The Work in Turkey—The American Red Cross has sent a contribution of $10,000 to the American ambassador in Constantinople for relief work in Turkey The ambassador has arranged with the French and English governments to assume the responsibility of supplying the funds and maintenance of their respective hospitals under the direction of the American Red Cross

To Help Those Blinded in Battle—The American Red Cross Hospital, Munich Bavaria, has concentrated its forces on the alleviation of suffering to those who have been blinded in battle not only by treating the facial wounds, but also by the education of the blind in reading, writing and certain occupations For this particular work the American Red Cross has appropriated $2,000

Many Physicians Lost in War—During a debate in the Hungarian Parliament, January 20, it was officially stated that from the beginning of the war until November 1 last, 373 German surgeons have been wounded, ninety-six have died on the battlefield, 707 have died from diseases and 215 have been taken prisoners——The wounded Austrian medical officers numbered 315, and 971 have died from infectious diseases 101 have been killed while rendering medical assistance on the firing line and 331 have been taken prisoners

Red Cross Activities in Egypt.—The American Red Cross has authorized the formation of a committee of Americans in Cairo, Egypt, to handle European war relief work The immediate activities are in behalf of more than 4,000 homeless Armenians who are being sheltered at Port Said The Armenian Red Cross and Armenian Benevolent Society will aid in this work——On the steamer *Lafayette* of the French line the American Red Cross has shipped 7,000 pounds of hospital supplies and clothing to the American Relief Clearing House in Paris for distribution

Personal—Drs William E Falconer, Walter J Dodd and Varazstad H Kazanjian, Boston, members of the Harvard unit, have been mentioned in despatches by Field Marshal Sir John French, commander of the British forces——Dr Allen Greenwood, Boston, a member of the Harvard unit, has returned from France——Dr Edward W Ryan of the American Red Cross has arrived in Rome after a trip to Montenegro and Albania——Drs Edward Stewart, Boston, and G F Laughlin, Boise, Ida, and Dr Bates, have arrived in Saloniki to take up the Serbian relief work——Dr E. Magoon, Dorchester, Mass, has been sent to investigate conditions among the Serbian refugees and Austrian prisoners in Durazzo and Elbassan, Albania——Dr Elliott Gage, Boston, has been sent to Scutari, Albania, and Dr George W Bateman, Massachusetts, to Montenegro to look into the needs of the people in behalf of the American Red Cross

War Relief Supplies Shipped—A number of heavy shipments of war relief supplies for France, Montenegro, and Belgium have been made by the American Red Cross in the last few days The Transatlantique steamer *La Touraine* has carried 9,000 pounds of supplies and equipment to the American Relief Clearing House, Paris, and 680 pounds of convalescent garments, bandages and socks to the Belgian Red Cross at Calais On the *Rochambeau* of the same line there have been shipped 21,722 pounds of hospital supplies and women's and children's clothing designated for use in France for distribution by the American Relief Clearing House The same steamer carried 1,200 pounds of hospital supplies——Hospital garments, anesthetics, bandages and other relief supplies amounting to 10,248 pounds are en route to Naples to be forwarded to the Montenegrin Red Cross at Cettinje

LONDON LETTER

London, Jan 6, 1916

The War

THE BRITISH HOSPITAL UNITS IN SERBIA

In previous letters the good work done by the British and American hospital units in Serbia in the treatment of the sick and wounded, and above all in the extinguishing of the epidemic of typhus which ravaged the country, has been described Now its heroic people have been overtaken by a catastrophe comparable to that of Belgium, and the British hospital units have with some of the survivors undergone the hardships of flight through the mountains of Albania and Montenegro, or been made prisoners by the invaders The number of British physicians and nurses who have succumbed to disease in the country is not accurately known, but it seems to be between twenty-five and thirty It was the intention of the Serbian government when the war was over to disinter each of them from their present place of burial to collect them in one spot, and build over them a national monument on which Serbia's gratitude should be inscribed This is a task which will probably be performed when the time comes When Serbia succumbed to the last invasion the hospitals fell back with the retreating army, but not until they had been under heavy fire Some physicians, however, continued to tend the wounded until they fell into the enemy's hands Among these is Mr James Berry, the well-known London surgeon

THE INCREASED COST OF DRUGS

Commodities in general have advanced in price as a result of the war But drugs easily head the list in the magnitude of the advance, especially the synthetic products for which we are dependent on Germany In most cases the advance during the first five months was much less than during the past year The accompanying table shows the manner in which some of the principal drugs have been affected.

CHANGE IN PRICES OF DRUGS

Drugs	Prices Immediately Before the War Per Pound	Prices Jan 1, 1915 Per Pound	Approximate Present Prices Per Pound
Acetanilid	$ 0 20	$ 0 50	$ 2 00
Acetylsalicylic acid	50	1 50	12 00
Atropin	6.00*	20 00*	33 00*
Caffein	4 00	4 50	12 50
Calomel	50	1 00	1 50
Phenol (carbolic acid)	09	30	48
Cocain hydrochlorid	1 00*	2 00*	3 50*
Cod liver oil	18 00†	25 00†	67 00†
Mercuric chlorid	50	1 50	2 00
Hexamethylenamin	48	1 00	1 50
Hydroquinon	50	2 00	9 00
Ipecacuanha	2 00	4 00	6 00
Morphin hydrochlorid	2 00*	3 00*	3 00*
Opium (Turkish)	4 50	7 00	9 50
Phenacetin	50	1 50	15 00
Antipyrin	1 50	2 00	18 00
Potassium chlorate	08	24	36
Potassium bromid	37	78	3 50
Quinin sulphate	50	1 50	17 50
Santonin	30 00	55 00	40 00
Sodium salicylate	30	1 00	5 50

* Per ounce
† Per barrel

THE ROYAL COLLEGE OF SURGEONS AND THE WAR

In a previous letter, the effect of the war on the Royal College of Surgeons was instanced as an example of the manner in which the war is permeating our national life The following particulars, however, may be of interest The president (Sir Watson Cheyne, Bt, C B), who holds the rank of surgeon-general in the Royal Navy, was away from the June meeting and leave of absence was given to Sir George Makins, K C M G, Sir Anthony Bowlby, Sir Berkeley Moynihan, and Mr F F Burghard, in France and to Mr C J Symonds Mr R H Burne, physiologic curator of the museum, is working at Dunkirk, under the French Red Cross, and a large proportion of the servants of the college have enlisted The obituary of fellows includes thirty-three names, three of whom lost their lives in the war, and the obituary of members includes 385 names, thirty-three of whom died in the war, while of the twenty-one licentiates in dental surgery, one died at the war

A Child Poisoned by Potassium Chlorate

Cases of poisoning by potassium chlorate are so rare that many physicians are not aware that the drug is a poison A case has just occurred in which the infant son of a physician died as the result of administration of the drug in his food under the impression that it was lactose Owing to some mistake the druggist supplied the drug in response to the order for lactose Of course the quantity which would be administered in place of the usual doses of lactose given as a food to infants would be high for that age Potassium chlorate has been mistaken for Rochelle salt and other substances, but it does not appear to have previously been mistaken for lactose

Dutch Honor to Sir David Bruce

The Dutch Academy has conferred on Sir David Bruce the Leeuwenhoek Medal in consideration of his research work into the causes of sleeping sickness and Malta fever Writing to him on the subject, the president, Professor Lorenz, said

> Allow me to congratulate you most heartily on the occasion of the Leeuwenhoek Medal having been awarded to you, or rather, allow me to say that I consider it a great privilege, for our Academy of Sciences to have been able to recognize in this way the high importance of your researches and the great value of the results you have achieved I may add perhaps that Leeuwenhoek, the great investigator, whose memory we honor by this medal had close relations with your country He was a foreign member of the Royal Society and the greater part of his discoveries have been first published in the *Philosophical Transactions* It is peculiarly gratifying to me that the medal has now been awarded to a member of the great society in which Leeuwenhoek found a lively interest for his discoveries

The award is made every ten years, and this is the first made to a British scientist the previous laureates being Ehrenberg (1875), Ferdinand Cohn (1885), Louis Pasteur (1895) and Beyerinck (1905)

PARIS LETTER

Paris, Jan 6, 1916

The War

HYGIENE IN THE TRENCHES

Recently the Academie de medecine appointed a committee on the hygiene of our soldiers in the field and in particular the prophylaxis of preventable diseases and the means of guarding the soldiers against the local effects of cold The following is the text of a circular which the academy, on the recommendation of Professor Letulle, has approved and the circulation of which is recommended

'Now that the winter is here the soldier should know how to protect himself against the local effects produced or favored by cold The conditions called 'freezing' ordinarily affect the feet They sometimes have serious consequences and even produce infirmities They may often be avoided by care of the feet and shoes Intense and prolonged cold is in itself sufficient to produce freezing The conditions mentioned, however, frequently manifest themselves with a very moderately low temperature, sometimes not lower than 0 C (32 F) In the trenches various causes cooperate with cold These causes are remaining motionless in water, liquid mud or melting snow, continual dampness of the shoes, shrinking of the leather and consequent compression of the foot, and interference with circulation producing swelling of the foot and of the lower part of the leg It is possible to protect oneself against these various conditions

'1 In the Trenches —Do your best to keep the bottom of the trench dry by means of drains, cesspools, or broken stone, timber or brush Prolonged immobility whether standing or sitting invites circulatory troubles and renders freezing easy Move as often as possible therefore Carefully grease the foot and shoe Tallow alone or mixed with neatsfoot oil is suitable for this purpose The shoes should be large so that the foot may always be comfortable in them It is well to wear two pairs of socks or to wrap the foot with paper bands over which the sock may be placed, but care should be taken that the foot is not compressed, for if the shoe presses on it or the foot begins to swell the resulting compression will be more dangerous than the cold Garters and leggings ought not to be too tight A dry pair of socks should always be kept for change To prevent stagnation of the circulation which invites freezing, observe the following most important regulation Take off your shoe for a time at least once a day Rub the foot and the lower part of the leg for ten minutes Alternately bend the toes and the foot forward and backward with repeated energetic movements Then put on dry socks Thus your chances of avoiding frozen feet will be greatly improved

'2 In Cantonment —Use your leisure to take care of feet and shoes Keep the feet clean and comfortable Rub them once a day Clean your shoes of mud dry them as well as you can without exposing them too much to the heat of the fire which hardens them Carefully grease the leather to render it pliable and less permeable to water Wash your socks to have them clean and dry when they may be needed If you are afraid that your feet have been frozen, do not bring them too near a fire suddenly Serious results are sometimes due to this Remove your shoes, rub your feet gently, put on sabots with straw in them and go to the doctor for treatment"

ABDOMINAL WOUNDS IN WAR SURGERY

Abdominal surgery continues to be a subject of discussion in our professional societies At a recent session of the Sociéte de chirurgie de Paris, Dr Rochard, surgeon of the hospitals, in connection with statistics of eighty-four penetrating abdominal wounds reported to the society by Dr Stern, reviewed all the cases of operative and nonoperative treatment of wounds of this class which have been reported to the society since the beginning of the war and drew the conclusion that laparotomy is the only treatment applicable either to wounds of war or to wounds of civilian life It gives a mortality of 60 per cent while nonoperative treatment gives 80 per cent

The seriousness of the prognosis is in direct relation to the number of organs affected The mortality is considerably higher in abdominal wounds which affect other regions than in exclusively abdominal wounds Among exclusively abdominal wounds those affecting the viscera are more serious than simple penetrating wounds Those which affect several viscera are more serious than those which affect only one organ With regard to the organ which is injured, the most serious wounds are those of the spleen, the most benign are those of the liver Between the two are wounds of the intestine

Generally speaking, the following conditions contribute toward an unfavorable prognosis preoperative and postoperative agitation, nervousness, nonextraction of the projectile Rupture of the intestine is more serious than section because of the copious outflow of intestinal liquid Section is more serious than a laceration which, however, is more serious than a perforation On the other hand, a favorable outcome may be hoped for when the patient is in a satisfactory condition on the fifth day Observation shows that the greater number of deaths occur before this date Death may occur later, on the tenth day, for instance, and therefore one should not regard patients as cured until their cases have been followed at least fifteen days and appear to be progressing favorably at that time.

THE PHYSICIAN'S DECISION WITH REGARD TO OPERATION

The secretary of war was asked if a soldier in active service who has contracted a hernia in the performance of his duty is entitled to demand operation in the interests of the service He replied that the decision as to the propriety of operation rested entirely with the physician

DEATH OF AN AMERICAN AMBULANCE ATTENDANT

The American ambulance committee has been informed that one of the volunteers M Richard Nelville Hall, attached to the section of the American ambulance attending the French army in Alsace, was killed in the performance of his duty Mr Hall was 21 years old and the son of Prof H G Hall of the University of Michigan He was struck by a German shell as he was standing beside his ambulance Another member of the staff of the American ambulance, Mr L C Doyle, was slightly wounded

THE RETURN OF THE FRENCH MEDICAL MISSION FROM SERBIA

News was recently received at Tunis from the French medical mission in Serbia After having struggled against a serious epidemic of typhus which caused great ravages, the mission shared the lot of our Serbian allies during their retreat Since its work is now suspended its physician in chief Colonel Jaubert, has been ordered to return with his staff The mission was on Albanian territory at last accounts

TREATMENT OF TETANUS

At the Réunion medico-chirurgicale de la VI-e armee, Dr L de Montille reported excellent results in tetanus, even very acute cases, from Baccelli's method as modified by himself He employs the following formula

Phenol	1 gm
Ether enough to dissolve it	
Sterilized olive oil 10 gm	

This mixture is safer than phenol but just as efficacious The size of the dose may be diminished and no more than one or two injections need be given a day in the muscular masses More than 1.5 gm phenol may be safely given a day by this method, but doses one-sixth that size are effective The advantages of the method thus modified are (1) the great rapidity with which the patient becomes quiet (detetanized); (2) the simplicity of the treatment (one or two injections a day), (3) the activity obtained from a very small dose (the recommended injection of 2 c c represents 0.2 gm phenol in twenty-four hours, and at the end of a few days the injection may be reduced to 1 5 c c or 1 3 c c), (4) the real and permanent recovery which rapidly becomes manifest (not more than ten or twelve days after beginning the treatment in serious cases)

BERLIN LETTER

Berlin, Dec 7, 1915

Personal

Professor Dohrn, for many years director of the gynecologic clinic of the Konigsberg University, died in Dresden, December 5, aged 79 years He had been a pupil of Professor Lietzmann of Kiel and Professor Crede of Leipzig When he was only 27 years of age he was appointed ordinary professor in the gynecologic clinic at Marburg Twenty years later, in 1883, he was called to Konigsberg and remained there until 1897, when he resigned his position and went to Dresden He was an ardent research worker and writer Of special note are his contributions to operative gynecology and puerperal fever His efforts did much to further antisepsis in obstetrics He also did much to elevate the standing of the midwife. In 1892 the government persuaded him to assume the editorship of the new edition of the Prussian textbook for midwives Although an exceedingly busy man in his professional work, he always found time to devote to medical societies For many years he was chairman of the East Prussian medical society

December 1, Professor Korach, the director of the division of internal medicine in the city hospital of Posen, died at the age of 62 years

Professor Schittenhelm, director of the Konigsberg University medical clinic, has accepted the call to take the place of the late Professor Luthje of Kiel

Prophylactic Vaccination Against Typhoid and Cholera

At a meeting held in the Kaiser Wilhelm Institute, November 16, Professor von Wassermann discussed this problem, basing his statements on his experimental research He found that white mice were immune to typhoid infection by way of the bowel and that the blood of these mice killed the typhoid bacillus He assumed, therefore, that there was some relationship between this immunity of the intestinal mucosa and bactericidal substances in the blood This assumption was confirmed by experimental observation By injecting an aqueous solution of chemical substances obtained from the body of the typhoid bacillus under the skin of a mouse, Wassermann succeeded in reducing the bactericidal protective substances or antibodies in the blood, at the same time removing the resistance to the passage of the bacillus through the intestinal epithelium Therefore, if the reduction in the amount of antibodies in the blood produced such an effect on the intestinal epithelium, Wassermann concluded that by increasing the antibodies in the blood the intestinal epithelium would be less freely penetrated by the typhoid bacillus If this could be done in the case of the mouse, the same thing was possible in man The entrance of bacteria into the body always lowers the amount of antibodies in the blood and increases the possibility of producing that particular disease Hence, in addition to protective or prophylactic vaccination, other hygienic measures must be instituted

Inspection of Prison Camps

It is to be desired that the visitation of prison camps in Russia and Germany by the Red Cross sisters, and the discussions of the Red Cross conference in Stockholm will dispel the feeling heretofore existing as to the treatment accorded prisoners of war in these two countries It has been stated officially that the Russian sisters and the three members of the Danish Red Cross, who have been active in Germany, have completed their work and gone on to Copenhagen Every opportunity was given these visitors to inspect the prison camps and the methods of treatment of the prisoners They have freely expressed satisfaction over the building of these camps, and the housing and care of the prisoners, and particularly have they commended the hygienic precautions taken They complimented the hospitals in which prisoners of war received the same care and treatment as do German soldiers The members of this commission petitioned the authorities to increase the bread ration and other foods, but, because of conditions existing throughout Germany necessitating the exercise of great care in the use of food products, the suggestions made in the petition could not be met At the conference in Stockholm, various points were discussed as to the feeding and hygienic care of prisoners, and a definite plan of action was worked out which, it was hoped, would serve as a guide for the general treatment of prisoners of war everywhere It is said that special committees are to be appointed in Siberia with headquarters in six of the principal cities, and that all of the prison camps are to be kept under continuous observation Prince Karl of Sweden, who presided at the conference, suggested the appointment of a special commission, consisting of representatives of neutral countries as well as of the countries now at war, to visit the prison camps and report its findings

Age Statistics of Prussia

Much has been written and many conclusions have been drawn as to the changes taking place in the average age of the population This has been largely due to the confusion of average age and average duration of life, and the determination of the average age on the basis of the average duration of life. Statistics show definitely that this is wrong The layman, however, has held to the belief that it suffices to determine the average age of the population for economic purposes In order to arrive at a definite conclusion and settlement of this much disputed question, the government ordered an investigation based on the censuses of 1875, 1890, 1900 and 1910 The research was made along very definite lines so that the years of life of every age class were obtained, and by multiplying these by the population figures fairly reliable statistics were obtained The results for Prussia are given in the accompanying table

AVERAGE AGES IN PRUSSIA

Year	Population	Total Years of Life	Average
MALES			
1875	12 686 212	332 179,900	26 18
1890	14,721,353	384 715,390	26 13
1900	16 990 231	443 683,564	26 11
1910	19,870,103	524,238,547	26 38
FEMALES			
1875	13,044,682	350 607,563	26 88
1890	15,270 470	415 373,950	27.20
1900	17,519,650	476 811 120	27 22
1910	20,337,721	559,756 370	27 52

These figures show that there are not only more females than males, but that the females also are older and have more rapidly been becoming so, that is, the increase in the average has been much more rapid for the woman than for the man In 1875, the woman was 0 7 year older than the man, in 1890, these figures rose to 1 07, in 1900 to 1 11, and in 1910 to 1 14 On the whole, the total population has grown slightly older, that is, the average age has increased In the case of men it has grown from 26 18 in 1875 to 26 38 in 1910 and in the case of women it has grown from 26 88 in 1875 to 27 52 in 1910

Marriages

Donald Gardner Russell, M D., New Haven, Conn, to Miss Eugenia Lyons of San Diego, Calif, at Huntington, W Va, January 1

Joseph T Murphy, M D, Tremont, Pa, to Miss Sara Morris of Wilkes-Barre, Pa, at Galveston, Tex January 12

Herman Carey Bumpus, Jr, M D, Rochester, Minn, to Miss Helen McBurnie of Winona, Minn, December 29

Harry Lester Baum, M.D, Denver, to Miss Martha Belle Shumate of Memphis, Tenn, at Denver, December 14

Bush Leslie Burns, M D, Two Harbors Minn, to Miss Ruth Garnich of Ashland Wis, December 29

Harry P Bowen, M D, Johnson Creek, Wis, to Miss Florence F Imig, at Milwaukee, January 4

Charles F McNevin, M D, to Mrs Abbie Warner Jones, both of St Paul, at Los Angeles, January 3

James Frank Jolley M.D, Mexico, Mo, to Miss Lola Yark of Mattoon, Ill, January 2

James Riddle Goffe M D, to Miss Alice Lansing Atochn both of New York City, recently

Deaths

Edward Hutchins Webster, M D Northwestern University Medical School, Chicago, 1877, aged 64, a Fellow of the American Medical Association, for nearly thirty-five years a practitioner of Evanston, Ill , division surgeon of the Chicago and Northwestern System and physician to the Evanston Emergency Hospital, died at the home of his daughter in Hubbard Woods, Ill., January 3, from acute gastritis The name of Dr Webster is inseparable from the history of Evanston where he practiced for so many years On January 3, 1912, a medical science room in the Evanston Public Library was formally opened and presented to the library by the donor This room was founded in honor of Dr Edward H Webster and the opening exercises were a unique tribute of affection and respect paid to a man still living Dr Webster s sterling worth and lovable eccentricities and characteristics combined to make him the best loved citizen of Evanston

Henry Genet Taylor, M D University of Pennsylvania, Philadelphia 1860, aged 78, a Fellow of the American Medical Association and president of the Medical Society of New Jersey in 1889, one of the most prominent practitioners of Camden, N J , assistant surgeon of the Eighth New Jersey Infantry, U S V , and surgeon of the Artillery Brigade, Third Corps, Army of the Potomac, during the Civil War, major surgeon of the Sixth Infantry, N J N G , from 1869 to 1882, and brigade surgeon during the strike of 1887, medical director and secretary of the medical staff of the Cooper Hospital, Camden, member and secretary of the board of managers of the Camden City Dispensary, and physician-in-chief to the Camden Home for Friendless Children, died at his home in Camden, January 14, from influenza

Henry Eastman, M D Jefferson Medical College, 1892 aged 45, a Fellow of the American Medical Association and a well known oculist of Pittsburgh, a member of the American Academy of Ophthalmology and Oto-Laryngology, surgeon to the P V and C Railroad and oculist and aurist to the Wheeling and Lake Erie and Wabash Pittsburgh Terminal Systems ophthalmologist to the Carnegie Steel Company and a member of the staff of the West Penn Hospital, formerly president of the South Brownsville Board of Health, died in the West Penn Hospital, Pittsburgh, January 7, from pneumonia

Corwin Worth Cornell, M D Rush Medical College, 1871, aged 66, a Fellow of the American Medical Association, a charter member and for more than thirty years secretary-treasurer of the Marion County (Iowa) Medical Society, councilor for the seventh district, local surgeon at Knoxville for the Burlington System, died at his home in Knoxville, January 12, from angina pectoris At a special meeting of the Marion County Medical Society, January 14, a committee was appointed to draft suitable resolutions regarding the death of this well-known and much loved member of the society

Joseph Aloysius Mudd, M D University of Maryland, 1864, aged 73 a member of the Medical Society of the District of Columbia in 1865, about 1866 removed to St Charles, Md and later to Hyattsville, Md , licensed in the District of Columbia, Dec 30, 1896, assistant surgeon in the Confederate Army and author of a book recording his war observations and experiences with Porter in northern Missouri, died at his home in Hyattsville, January 21, from acute dilatation of the heart

Enoch Pearce, M D Jefferson Medical College Philadelphia, 1854, aged 83, a Fellow of the American Medical Association surgeon of the Sixty-First Ohio Infantry, U S V during the Civil War and given the brevet rank of lieutenant colonel for gallant and meritorious service' , a practitioner of Steubenville Ohio for sixty-one years, president of the Soldiers' and Sailors' Association of Jefferson County Ohio, died at his home in Steubenville, January 13, from pneumonia

Richard Sechrist Gaugler, M D Jefferson Medical College, 1894, aged 47, a member of the Ohio State Medical Association, formerly first assistant surgeon of the National Military Home of Ohio Dayton, while returning from a professional call in Dayton January 8 was struck by an automobile and instantly killed At the funeral of Dr Gaugler the active pallbearers were fellow members of the Montgomery County Medical Society and the society in a body attended the funeral

Michael Frampton Patterson, M D Western Reserve University, Cleveland, 1881, aged 58, a Fellow of the American Medical Association, a specialist on diseases of the eye, ear, nose and throat, who practiced for several years in Des Moines where he was a member of the staff of Mercy Hospital and professor of diseases of the ear, nose and throat in the College of Physicians and Surgeons of Iowa, died at his home in Fonda, Iowa, January 13, from complications following influenza

Charles Adna Smith, M D Rush Medical College, 1882, aged 59, a Fellow of the American Medical Association and American College of Surgeons, a specialist on surgery, of Texarkana, Texas, for twenty-eight years chief surgeon of the St Louis Southwestern System and resident physician at Texarkana for the Missouri Pacific Railway, died at the St Louis Southwestern Hospital, Texarkana, January 12, from nephritis

Peter Hugo Ernst, M D New York University, New York City 1886, aged 54, a Fellow of the American Medical Association, a well-known gynecologist of New York City, adjunct professor of gynecology in the New York Polyclinic Medical School, gynecologist to the De Witt Dispensary and assistant gynecologist to the New York Polyclinic Hospital, died at his home in New York City, January 9, from pneumonia

Charles George Am Ende, M D Bellevue Hospital Medical College, 1890, aged 76, a Fellow of the American Medical Association and a member of the American Electrotherapeutic Association, for more than fifty years a practitioner of New York City, a member of the staff of the Policlinic, Bellevue and Post-Graduate hospitals and the West Side Dispensary, died at his home in New York City, January 14

Meredith D Jones, M D Jefferson Medical College, 1870, aged 67, a member of the Missouri State Medical Association, formerly a surgeon in the Navy, a resident of St Louis since 1890, professor of otology and rhinology in Barnes Medical College, St Louis, and emeritus professor of otology in the American Medical College, died in Chambersburg, Pa , January 11 from heart disease

Jesse Lee Morrill, M D College of Physicians and Surgeons in the City of New York, 1869, aged 67, a Fellow of the American Medical Association and the New York Academy of Medicine and a member of the New York Obstetrical Society, a specialist in obstetrics, died at his home in New York City, January 16, after a nervous breakdown

James Matthew Kiernan, M D University and Bellevue Hospital Medical College, 1908, aged 36, a Fellow of the American Medical Association, one of the best known of the younger practitioners of Bridgeport Conn and a member of the staff of the Bridgeport Emergency Hospital, died in his office in that city, December 28, from pneumonia

W A Shands, M D Charleston (S C) Medical College, 1860, aged 76, a Confederate veteran, for two terms a member of the South Carolina Legislature from Laurens County, for eighteen years mayor of Clinton, S C , a member of the board of trustees of the Thornwell Orphanage, died in the Lesh Infirmary, Clinton, S C, January 1

Charles C Grizzell, M D Missouri Medical College, St Louis, 1889, aged 56, formerly a member of the Illinois State Medical Society and first vice president of the Southern Illinois Medical Association, of Murphysboro, Ill , a specialist on diseases of the eye, ear, nose and throat, died at his home near Murphysboro, January 17

Edward J Collins, M D George Washington University, Washington, D C, 1892, aged 66, a member of the Board of Eclectic Medical Examiners of the District of Columbia since 1897, during this time serving as secretary and as president of the board, died at his home in Washington, January 16 from endocarditis

Charles Impey, M D University of Louisville, Ky, 1874, aged 63, a Fellow of the American Medical Association and a veteran practitioner of Omaha, surgeon to the Wise Memorial Hospital, Omaha, was seized with a cerebral hemorrhage January 10, while entering the hospital and died a few minutes later

James Joseph Bowen, M D New York University New York City 1895 aged 40 formerly a member of the Medical Society of the State of New York assistant surgeon to the Charity Nose and Thoat Hospital Buffalo, and surgeon to St Joseph s Hospital, Gardenville, N Y , died in Saranac Lake, N Y January 12

Wellington S Hopkins, M D Missouri Medical College St Louis 1886, aged 53, a member of the Missouri State

Medical Society and for two terms president of the Greene County, (Mo) Medical Society, a well known practitioner of Springfield; died in the Springfield Hospital, January 12, from pneumonia

John Ashley, M D University of London, England, 1874, aged 62, a member of the Missouri State Medical Association and formerly a member of the State Board of Health, from 1882 to 1902 a clergyman of the Methodist Episcopal Church, died at his home in Bloomfield, Mo, January 3, from malignant disease

Josiah Swett, M D University of Vermont, Burlington, 1878, aged 59, a Fellow of the American Medical Association, for many years coroner's physician for New Hartford and Barkhamsted, Conn, president of the New Hartford Electric Light Company, died at his home, January 13, from pneumonia

Holland W Richardson, M D Eclectic Medical Institute, Cincinnati, 1860, Rush Medical College, 1862, Bellevue Hospital Medical College, 1870, aged 85, formerly a member of the Illinois State Medical Society, died at his home in Marengo, Ill, January 15, from pneumonia following influenza

Thomas L Craig, M D College of Physicians and Surgeons, Keokuk, Ia, 1880, aged 75, for many years in the United States Indian Service with the Osage Indians in Oklahoma and also with the Navajo Indians, died at his home in Soledad, Calif, December 23, from the infirmities of age

Charles H Steele, M D New York University, New York City, 1874, aged 64, formerly professor of materia medica and therapeutics in Cooper Medical College, San Francisco, but for the last fifteen years a resident of Detroit, died in Harper Hospital, Detroit, January 16, from cerebral hemorrhage

Edward Hasson, M D Rush Medical College, 1899, aged 39, a Fellow of the American Medical Association, formerly president of the Peoria City Medical Society, a member of the Proctor Hospital staff, Peoria, health commissioner of Peoria, Ill, died in a hospital in Peoria, January 16

Herman Beyer, M D Bellevue Hospital Medical College 1869, aged 79 a veteran of the Civil War in which he served as hospital steward at Baltimore, until 1904 a practitioner of Stapleton, N Y, and thereafter a practitioner of Oceano Calif, died recently at his home from senile debility

Henry Chapeze Houston, M D Cleveland Homeopathic Medical College, 1877, aged 68, consulting physician to the Ohio Soldiers' and Sailors' Orphans' Home, Xenia, O, director of the Citizens' National Bank of Urbana, died at his office in Urbana, O, January 8, from heart disease

William John Teahan, M D College of Physicians and Surgeons in the City of New York, 1901, aged 36, a Fellow of the American Medical Association, for four years medical examiner for Hampden County, Mass, died at his home in Holyoke, Mass, January 11, from pneumonia

William Kelly Fletcher, M D Harvard Medical School, 1862, aged 88, assistant surgeon of volunteers throughout the Civil War, for many years a practitioner of Somerville and Cambridge, Mass, died at the Home for the Aged in Somerville, January 13, from cerebral hemorrhage

Andrew B Mitchell, M D University of Maryland, 1866, aged 75, after practicing in New Jersey and West Virginia, he settled in the District of Columbia where he was licensed Dec. 30, 1896, died at the Home for Incurables, Washington, D C, January 20, from myocarditis

Benjamin Franklin Gibbs, M D Hahnemann Medical College of Philadelphia, 1885, aged 57, one of the founders of the Northern Dispensary and Emergency Hospital, Washington, died at his home in Washington, January 15, from chronic parenchymatous nephritis

William Barry Burnell, M D George Washington University, Washington D C, 1906, aged 34, formerly a city official of Norwalk, Conn, and a member of the staff of the Norwalk Hospital, died in the Westport, Conn, Sanitarium, January 13, from heart disease

David Walter Welch, M D Hospital Medical College of Evansville, Ind, 1886, aged 67, a member of the Indiana State Medical Association, an ardent good-roads advocate of Posey County, Ind, died at his home in Mt Vernon, Ind., January 11, from pneumonia

Alvin Scott Storey, M D Western Reserve University, Cleveland, 1902, aged 38, a Fellow of the American Medical Association, roentgenologist to the City and Lutheran hospitals, Cleveland, died at his home in that city, January 11, from pneumonia

Gordon Percival Spencer, M D Bellevue Hospital Medical College, 1887, aged 56, a member of the Medical Society of the State of New York, died in his room in the Y M C A Building, Watertown, N Y, January 6, from heart disease

Elliott Calvin Smith, M D University of Buffalo, 1882, aged 56, a member of the Medical Society of the State of New York, for thirty-four years a resident of Corfu, N Y, and health officer of that place, died at his home, January 8

Walter Louis Woerner, M.D Hahnemann Medical College, Philadelphia, 1912, aged 25, of Lititz, Pa, a specialist on diseases of the eye, ear, nose and throat, died in St Joseph's Hospital, Lancaster, Pa, January 7, from pneumonia

John Marshall Barkley, M D Rush Medical College, 1873, aged 72, a member of the Ohio State Medical Association, a veteran of the Civil War, local surgeon for the Big Four System at Riverside, Cincinnati, died at his home, January 6

Charles N Crawford, M D University of Louisville, 1884, aged 57, a member of the Kentucky State Medical Association, superintendent of the Milling Company of Lynn Grove and Murray, Ky, died at his home in Lynn Grove, January 3

Edwin Briggs Wheeler, M D Bellevue Hospital Medical College, 1873, aged 64, a Fellow of the American Medical Association, for more than forty years a practitioner of Philadelphia, died at his home in that city, January 11

James Bailey Doan, M D Memphis Hospital Medical College, 1901, aged 37, a member of the Medical Association of the State of Alabama, formerly of Leighton, Ala, died at Altus, Okla, in December, from an overdose of a drug

Hal Hall, M D Barnes Medical College, St. Louis, 1899, aged 42, assistant surgeon to the Cook Hospital, Fairmont, W Va, died at his home in Fairmont, W Va, January 3, from septicemia, the result of a carbuncle of the neck

John Evan Jenkins M D University of Southern California, Los Angeles, 1903, aged 36, a Fellow of the American Medical Association and a specialist in surgery, died at his home in Los Angeles, January 8, from gastric ulcer

Marvin Lawrence Garvin, M D Hospital College of Medicine, Louisville, 1900, aged 37, of Horse Cave, Ky, a member of the Kentucky State Medical Association, died recently after an operation for abscess of the liver

Robert T Neffner, M D Medical College of Ohio, Cincinnati, 1902, aged 37, a member of the Indiana State Medical Association, of Wiseburg, Ind, was drowned while attempting to ford East Tanners Creek, January 11

James Tweddale, M D Rush Medical College, 1869, aged 83, a Fellow of the American Medical Association and a widely known and honored practitioner of Woodford County, Ill, died at his home in Washburn, January 8

Abner H Andrus, M D Starling Medical College, Columbus, O, 1886 aged 53, formerly of Gary, Ind, but for the last year a practitioner of Markesan, Wis, died at his home in Markesan, January 10, from acute gastritis

Mayes Smith Davis, M D Rush Medical College, 1882, Bellevue Hospital Medical College, 1896, aged 55, a member of the Medical Society of the State of Pennsylvania, died at his home in Pittsburgh, recently

Edward Albert Louis Francois, M D Harvard Medical School, 1866, a veteran of the Civil War and for forty-three years a practitioner of Saugus, Mass, died in the Soldiers' Home, Chelsea Mass, January 11

Judson D Burns, M D Eclectic Medical Institute, Cincinnati, 1870, aged 67, a member of the insane commission of Grundy County, Ia, died at his home in Grundy Center, Ia, about January 7, from pneumonia

John R. Munford, M D College of Physicians and Surgeons, Chicago, 1889, aged 56, a Fellow of the American Medical Association, died at his home in Pittsburgh, about January 18, from pneumonia

Leo Reyfowitz Nathan, M D New York University, New York City, 1889, aged 61, also a graduate of the College of Pharmacy of the City of New York, died at his home in New York City, January 10

William Herman Kluge, M D University of Breslau Germany, 1893, aged 42, died at his home in Indianapolis, January 5

W J Williams, M D Atlanta (Ga) Medical College, 1887, died at his home in Ellabell, Ga, January 2

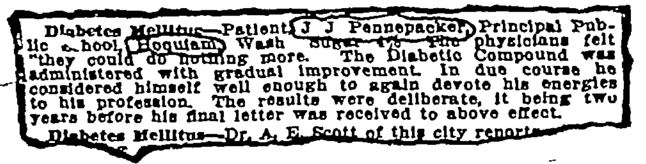
The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

FULTON'S COMPOUNDS

Nostrums for Bright's Disease and Diabetes

The Journal has just received a letter from Dr J B Kinne of Aberdeen, Wash With the letter was enclosed an advertising sheet ('Bulletin 31, November, 1915") sent out by the John J Fulton Company of San Francisco which exploits two nostrums "Fulton's Renal Compound" and 'Fulton's Diabetic Compound" Dr Kinne's letter reads



Diabetes Mellitus—Patient J J Pennepacker, Principal Public school, Hoquiam, Wash Sugar 4% The physicians felt "they could do nothing more. The Diabetic Compound was administered with gradual improvement. In due course he considered himself well enough to again devote his energies to his profession. The results were deliberate, it being two years before his final letter was received to above effect.

Diabetes Mellitus—Dr. A. E. Scott of this city report

Mr Pennepacker's case as described in a Fulton circular recently received.

> 'To the Editor —In today's mail I received the enclosed 'Bulletin' The first column of the last page begins with the account of the results of treatment of a patient in a nearby town In the columns of one local paper today I cut the inclosed clipping telling about the amputation of this man's leg for diabetes
>
> About one year ago I attended a patient here who had spent a large amount of money with this concern who told me about the above 'cure,' but my patient died later It seems a terrible thing that this kind of matter is permitted to go through the mails"

The case referred to by Dr Kinne was that of a Mr J J Pennepacker whose case was reported by the Fulton concern as an instance of 'cure" due to the use of 'Diabetic Compound" The clipping that the doctor enclosed together with the item from the Fulton advertising leaflet are reproduced on this page.

The Fulton nostrums have been briefly referred to before in these pages On Jan 18, 1913, The Journal said

> "Fulton's Diabetic Compound has not been examined in the Association Laboratory, but the so-called Renal Compound, put out by the same concern, has been examined The latter was found to consist of some herbs, which were not identified, alcohol 5 per cent and water No alkaloids were found and the presence of heavy metals iodids, bromids or acids could not be demonstrated"

The concern itself makes a pretense of giving the formulas of its two preparations The "Renal Compound" has been said to be

> A combination of the desirable principles of Triticum [Couch grass or Quick grass] Chimaphila [Bitter wintergreen '] Spiræa [Meadow sweet] and other herbal agents carrying small quantities of Sodii Boras [Borax] and Sodii Nitras [Chili saltpeter] both of the latter in less than half the physiological doses '

Elsewhere the formula has been given as

> A combination of Triticum Pelosine and other similar herbal diuretics to which have been added a small quantity of Sodii Boras and Sodii Nitras, both of the latter in less than half the physiological doses '

The "Diabetic Compound" is alleged to be

> A combination of the desirable principles of Chimaphila [Bitter wintergreen] Eupatorium [Boneset] Taraxacum [Dandelion] and other herbal diuretics and correctives carrying small quantities of Sodii Boras [Borax] and Sodii Nitras [Chili saltpeter] both of the latter in less than half the physiological doses

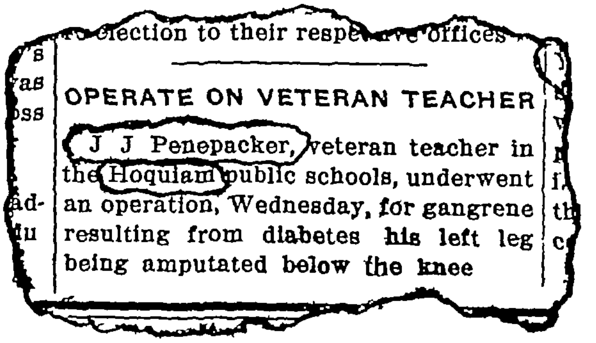
While this 'information" fails to inform, it doubtless answers the purpose for which it is given But whatever indefiniteness and ambiguousness characterize the statements regarding the composition of the nostrums is more than compensated for by the specific and positive claims made for their therapeutic action To quote from the advertising

> 'Fulton's Renal Compound is the first progressive step in forty years in the treatment of kidney disease"
>
> Call inflammation of the kidneys what you will, after it becomes chronic (which it commonly does in a few months) it is then incurable by anything known except Fulton's Renal Compound"
>
> Bright's Disease and Diabetes are now positively curable in about 80 per cent of all cases"
>
> Fulton's Renal Compound is the only thing known that acts directly on the kidney tissues, reducing inflammation and thus reopening the tubules and kidney function"
>
> 'Fulton's Renal Compound is the only specific in the known world for chronic Bright's Disease '
>
> John J Fulton was the first man in the world to reach the kidneys with an emollient'
>
> Diabetes is rated the world over as incurable but recoveries are being reported daily through Fulton's Diabetic Compound'

Some time after the short article appeared in The Journal on the Fulton Compounds, the Propaganda Department started to investigate some of the alleged cures Experience has shown that it is useless to expect to get accurate information regarding individuals who have recently written testimonials for any 'patent medicines" It becomes necessary, especially in such diseases as are not quickly fatal, to allow some time to elapse before investigating the cases For this reason a few of the old testimonials in our files were resurrected and letters were written to get what facts were available Press of other matter prevented this particular investigation being followed up, although some material was collected and this we now give so as to make it a matter of record

It should be understood that the quotations that are about to be given from the Fulton "literature" appeared in circulars issued between 1907 and 1911 Our investigation was commenced in the latter part of 1913

Case 1—According to a Fulton advertising leaflet issued in 1908, W H Bell, a druggist of Live Oak, Fla, wrote the company in 1907 that "last June I was surprised to find my feet and legs swollen" Mr Bell claimed he went to a physician who "found 50 per cent of albumen and pronounced it Bright's disease" According to the Fulton leaflet he "continued to get worse" and "bloated" until he "could not lie down ' About this time Mr Bell "met a drummer by the name of Levi' who told him of Fulton's Compound As a result Mr Bell began to take the compound In October, 1907, Mr Bell again wrote the Fulton people "I am 100 per cent better than when I began Am now on my 27th bottle" In commenting on this case the Fulton Company said "How can people doubt the curability of chronic kidney disease in view of the constant stream of testimony we are presenting Little wonder that Druggest Bell is now one of our valued and active agents"



ection to their resp offices

OPERATE ON VETERAN TEACHER

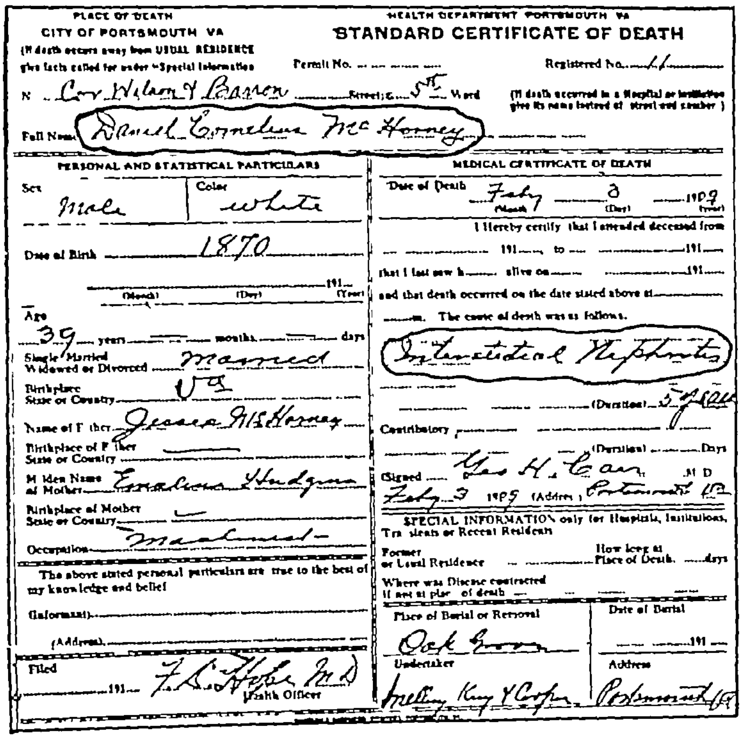
J J Penepacker, veteran teacher in the Hoquiam public schools, underwent an operation, Wednesday, for gangrene resulting from diabetes his left leg being amputated below the knee

Mr Pennepacker's case as described in the Aberdeen (Wash) *Herald*, Jan 14 1916

Mr Bell died of Bright's disease in June, 1908

Case 2—Mr D C McHorney of Portsmouth, Va, according to the Fulton advertising "had been a sufferer for years with Bright's disease" Although he had been treated by physicians, one being "one of the most noted doctors in

Norfolk," he was not helped In fact, "the last physician said that he could do nothing in my case, but said that I might linger a while longer" In April, 1907, Mr McHorney began taking Fulton's Compound and in his letter written in September, 1907, and published by the Fulton Company he says that through the use of Fulton's Compound "and God's help" he is "a living man today" Continuing, he says "I am like a new man I am able to work every day, the pains have gone, my eyes are all right, I sleep soundly and have gone back to my natural size" The Fulton Company in publishing Mr McHorney's testimonial commented "Wonder if our esteemed Portsmouth agent, J P Carr, knows about this nice recovery to which he contributed"


PLACE OF DEATH
CITY OF PORTSMOUTH VA
(If death occurs away from USUAL RESIDENCE give facts called for under "Special Information)
HEALTH DEPARTMENT PORTSMOUTH VA
STANDARD CERTIFICATE OF DEATH
Permit No.
Registered No. 11
N Cor Wilson & Barron Street; 5th Ward
(If death occurred in a Hospital or Institution give its name instead of street and number)
Full Name Daniel Cornelius McHorney

PERSONAL AND STATISTICAL PARTICULARS
Sex Male
Color white
Date of Birth 1870
(Month) (Day) (Year) 191
Age 39 years months days
Single Married Widowed or Divorced married
Birthplace State or Country Va
Name of Father Jesse McHorney
Birthplace of Father State or Country
Maiden Name of Mother Emaline Hudgins
Birthplace of Mother State or Country
Occupation machinist
The above stated personal particulars are true to the best of my knowledge and belief
(Informant)
(Address)
Filed 191 F. L. Hope M.D. Health Officer

MEDICAL CERTIFICATE OF DEATH
Date of Death Feby (Month) 3 (Day) 1909 (Year)
I Hereby certify that I attended deceased from 191 to 191
that I last saw h alive on 191
and that death occurred on the date stated above at m. The cause of death was as follows.
Interstitial Nephritis
(Duration) 5 years
Contributory (Duration) Days
Signed Geo H. Carr M D
Feby 3 1909 (Address) Portsmouth Va
SPECIAL INFORMATION only for Hospitals, Institutions, Transients or Recent Residents
Former or Usual Residence
How long at Place of Death. days
Where was Disease contracted if not at place of death
Place of Burial or Removal Oak Grove
Date of Burial 191
Undertaker Kelley King & Cooper
Address Portsmouth Va

Miniature reproduction of the death certificate of D C McHorney The Fulton Company referred to Mr McHorney's case as a "nice recovery" from Bright's disease (See Case 2 in the article.)

The testimonial was circulated in 1908, Mr McHorney's death certificate states that on Feb 3, 1909, he died of "interstitial nephritis"

CASE 3—In various Fulton publications the testimonial was given of W R Marquis of Bartow, Fla According to these, Mr Marquis had chronic Bright's disease and his case was "surely a hard one" Further, he had been given up by his physician and was in a deplorable condition, being unable to lie in bed, stand on his feet or walk. "This condition," according to the Fulton concern, "frequently develops in extreme cases of this disease and up to the discovery of this Compound it was absolutely hopeless" When Mr Marquis' case "seemed most hopeless" he heard of Fulton's Compound and began taking it After the fourth bottle "he began to get better" In June, 1907, he stated that he was "almost entirely well" and added "I am candid in the belief that Fulton's Renal Compound is the only remedy in the world that could have saved me"

Mr Marquis' testimonial was circulated in the Fulton "literature" during the period 1908-1912, Mr Marquis died in July, 1912

CASE 4—Mort Gattrell of Ukiah, Calif, according to the Fulton concern, had diabetes Fulton's Diabetic Compound was recommended and Mr Gattrell took it Later he is alleged to have written to the company saying he had taken "about 40 bottles" of the compound and "I feel now that I am about well" Another Fulton circular reported "Gattrell is well" The latest report on Mr Gattrell apparently appeared in the Fulton "literature" in 1908 under the title "A Pleasing Incident"

Mr Gattrell died Nov 12, 1909, his death certificate gives as the cause of death "Uremic poisoning from chronic diabetes"

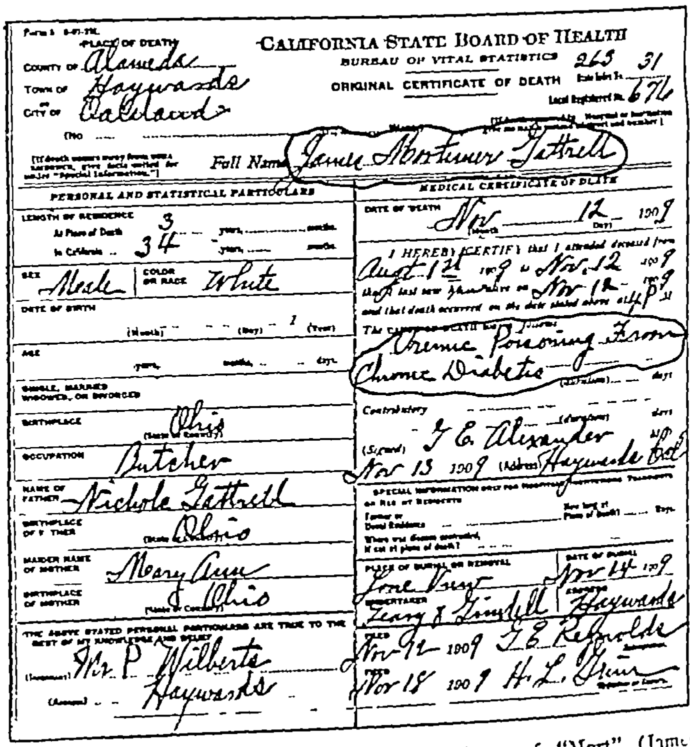
CASE 5—If one is to believe the Fulton advertising—which is not to be advised—when Edward Zimmerman of Belle Plaine, Iowa, started on Fulton's Compound "he was in such a bad way that his physician said he would not live two weeks, and told his friends to watch him closely as he was liable to drop dead" After Zimmerman had taken thirty-one bottles of the compound he was, according to the letter published by the Fulton Company, so improved that he was "nearly ready to go to work" and was willing to have the company "refer any one to him"

Edward Zimmerman died Jan 5, 1911, cause of death, according to the death certificate "Diabetes Mellitus"

CASE 6—Under the heading "This Work is Glorious" the Fulton Company describes the case of Arthur McIntyre of Flint, Mich Mr McIntyre, the public was advised, "was so bad with Bright's disease his friends gave up all hopes He was put on the Renal Compound and is today well and in business" This statement appeared in a Fulton bulletin published about 1908

A physician in Flint who knew of Mr McIntyre's case, and wrote to us in January, 1914, said "There was a Mr McIntyre in Flint, Mich, who had Bright's disease and took many bottles of Fulton's Compound Mr McIntyre died three years ago"

In addition to the cases just described there were others the histories of which, while not so tragic, were equally damaging to the claims of the Fulton concern For instance, there was the alleged case of Mr S of Iowa who despaired of ever getting well of Bright's disease but who after taking the "Renal Compound" is said to have "recovered completely" This was in 1908 or earlier But investigation showed that during the year 1913 Mr S was under treatment for Bright's disease.


PLACE OF DEATH
COUNTY OF Alameda
TOWN OF Haywards
CITY OF Oakland
CALIFORNIA STATE BOARD OF HEALTH
BUREAU OF VITAL STATISTICS 263 31
ORIGINAL CERTIFICATE OF DEATH
Local Registered No. 676
Full Name James Mortimer Gattrell

PERSONAL AND STATISTICAL PARTICULARS
LENGTH OF RESIDENCE At Place of Death 3 years months
In California 34 years months
SEX Male
COLOR OR RACE White
DATE OF BIRTH (Month) (Day) (Year)
AGE years months days
SINGLE, MARRIED WIDOWED, OR DIVORCED
BIRTHPLACE Ohio (State or Country)
OCCUPATION Butcher
NAME OF FATHER Nichole Gattrell
BIRTHPLACE OF FATHER Ohio (State or Country)
MAIDEN NAME OF MOTHER Mary Ann
BIRTHPLACE OF MOTHER Ohio (State or Country)
THE ABOVE STATED PERSONAL PARTICULARS ARE TRUE TO THE BEST OF MY KNOWLEDGE AND BELIEF
(Informant) Mr. P. Wilberts
(Address) Haywards

MEDICAL CERTIFICATE OF DEATH
DATE OF DEATH Nov (Month) 12 (Day) 1909
I HEREBY CERTIFY that I attended deceased from Aug 1st 1909 to Nov 12 1909
that I last saw h alive on Nov 12 1909
and that death occurred on the date stated above at 4 P M
Uremic Poisoning From Chronic Diabetic
Contributory
(Signed) J. E. Alexander M.D.
Nov 13 1909 (Address) Haywards Cal
PLACE OF BURIAL OR REMOVAL Lone Tree
DATE OF BURIAL Nov 14 1909
UNDERTAKER Leary & Grindell
ADDRESS Haywards
FILED Nov 12 1909 J. E. Reynolds
FILED Nov 18 1909 H. L. Dean

Miniature reproduction of the death certificate of "Mort" (James Mortimer) Gattrell A Fulton circular reported that after taking Fulton's Diabetic Compound "Gattrell is well" (See Case 4 in the article)

Then there was the case of Mrs P of Florida, who according to the Fulton circular, was so ill with Bright's disease that she "could not turn over in bed" Use of the "compound" is alleged to have enabled her to do her own work again and get out to church Investigation elicited the statement from Mrs P's family physician that the lady never had Bright's disease

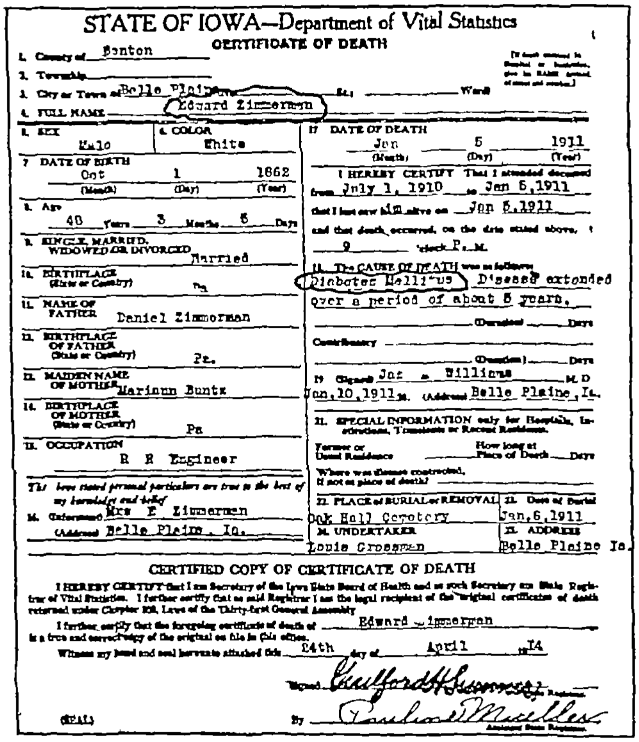
The case of Mr D of Oregon was described in the 1908 Fulton leaflets D had diabetes and was "almost in" but took thirty bottles of Fulton's Compound with the result—alleged—that he was "feeling fine." A physician in the town in which Mr D lived informs us that he does not believe the man ever recovered from the disease Certain it is he died in 1912 of pulmonary tuberculosis, a common sequel to diabetes

Mr W of Illinois suffered, according to a 1908 Fulton bulletin, from what "specialists" had called Bright's disease After taking one dozen bottles of the Compound he was reported as "almost cured" A physician who knew of W's case wrote in October, 1913, that Mr W never had Bright's disease but that he had "been troubled at times with a backache" and was "still the same"

In 1908 Mr C wrote to the Fulton Company which promptly published the letter He was taking the "Renal Compound" he wrote, and was convinced that it would "effect a cure." The facts are Mr C., about this time, went to a physician who made a thorough examination of his case The doctor wrote us that C. had no symptoms of Bright's disease and, when advised of that fact, seemed really disappointed '

The case of Rev B of Ohio was brought to the attention of the public in the Fulton bulletin in 1907 A druggist wrote urging those who wished to hear from a person who had "received great benefit' to write to Rev B The physician to whom we wrote in 1913 replied that Rev B died suddenly of "heart disease in 1912 The doctor added "he did not have Bright's disease"

Mr W of Texas, whose letter was published in 1907 by the Fulton Company claimed the doctor had told him he had Bright's disease and he was in bed four months Then he sent for a dozen bottles of 'Fulton's Compound" and after taking these, and two dozen more, declared he was "pronounced sound' and in fine health" The physician to whom we wrote in 1913 declared that Mr W had an acute nephritis from which he recovered *before* he began taking Fulton's Compound—about the time he became an agent for the preparation



STATE OF IOWA—Department of Vital Statistics
CERTIFICATE OF DEATH

1. County of Benton
2. Township
3. City or Town of Belle Plaine
4. FULL NAME Edward Zimmerman
5. SEX Male
6. COLOR White
7. DATE OF BIRTH Oct 1 1862 (Month) (Day) (Year)
8. Age 49 Years 3 Months 5 Days
9. SINGLE, MARRIED, WIDOWED OR DIVORCED Married
10. BIRTHPLACE (State or Country) Pa
11. NAME OF FATHER Daniel Zimmerman
12. BIRTHPLACE OF FATHER (State or Country) Pa.
13. MAIDEN NAME OF MOTHER Mariann Buntz
14. BIRTHPLACE OF MOTHER (State or Country) Pa
15. OCCUPATION R R Engineer

The above stated personal particulars are true to the best of my knowledge and belief
16. (Informant) Mrs E Zimmerman
(Address) Belle Plaine, Ia.

17. DATE OF DEATH Jan 6 1911 (Month) (Day) (Year)
I HEREBY CERTIFY That I attended deceased from July 1, 1910 to Jan 6, 1911
that I last saw him alive on Jan 6, 1911
and that death occurred, on the date stated above, at 9 o'clock P. M.
18. The CAUSE OF DEATH was as follows:
Diabetes Mellitus Disease extended over a period of about 5 years.
(Duration) Days
Contributory (Duration) Days
19. (Signed) Jas Williams M D
Jan. 10, 1911. (Address) Belle Plaine, Ia.
21. SPECIAL INFORMATION only for Hospitals, Institutions, Transients or Recent Residents.
Former or Usual Residence How long at Place of Death Days
Where was disease contracted, if not at place of death?
22. PLACE of BURIAL or REMOVAL Oak Hall Cemetery
23. Date of Burial Jan. 6, 1911
24. UNDERTAKER Louis Grossman
25. ADDRESS Belle Plaine Ia.

CERTIFIED COPY OF CERTIFICATE OF DEATH

I HEREBY CERTIFY that I am Secretary of the Iowa State Board of Health and as such Secretary am State Registrar of Vital Statistics. I further certify that as said Registrar I am the legal recipient of the original certificate of death returned under Chapter [illegible], Laws of the Thirty-first General Assembly

I further certify that the foregoing certificate of death of Edward Zimmerman is a true and correct copy of the original on file in this office.

Witness my hand and seal hereunto attached this 24th day of April 14

Signed Guilford H Sumner State Registrar.

(SEAL) By Pauline Mueller Assistant State Registrar.

Miniature reproduction of the death certificate of Edward Zimmerman (Case 5 in the article) Mr Zimmerman's case was advertised in the Fulton bulletin We have been unable to find any reference in the Fulton advertising to the outcome of the Zimmerman case.

In short, the investigation, incomplete though it was, revealed just what might have been expected The diabetic frequently drags along for years—especially if he is at all careful in his manner of living, and he is likely to be The fluctuations of the disease make it a fertile field for the quack and the patent medicine' maker Chronic kidney disease offers similar attractions to those who prey on the sick Nothing is much easier to get than testimonials in such cases—testimonials whose genuineness is as unimpeachable as their value is negligible.

Thus, on a foundation of misrepresentation, fraud and deceit is reared the stupendous superstructure of the 'patent medicine business—a trade whose millions corrupt legislatures prostitute no small portion of the press and are a standing menace to the public health Some day an enlightened public opinion will demand the destruction of this evil—and the dawn of that day is not far off

Correspondence

The "Autolysin" Advertising

To the Editor —Enclosed is a little booklet I received today from the Goodhue Publishing Co., of New York, exploiting the Horowitz-Beebe cure-all for cancer, which, were it not for certain obvious serious features, would make humorous reading

What psychologic explanation can be made of the fact that there are always sufficient numbers of suckers to make such pseudoscientific adventures profitable?

H C Dodge, M D, Steamboat Springs, Colo

To the Editor —In my professional life I have been flooded with the usual number of insults to intelligence both by mail and by the softspoken detail man As a result, I have no doubt, of the active propaganda for reform carried on by The Journal, these insults have lost a certain quality of "rawness" and become much more cleverly done

One of these has just been perpetrated on the profession which will probably hold the championship pennant for 1916 although I admit that it is early in the year to begin prophecy A very modestly bound, well printed volume comes to my desk with the compliments of the publishers At the end of the volume is a group of highly ethical advertisements of other books of the author So far so good The last four pages, however, contain the advertisement of a forthcoming book on the "autolysin' treatment of inoperable cancer Perhaps we might forgive this were it not for the following paragraph "This book tells how the general practitioner may take an active hand in fighting the malady The weapons he requires are an ordinary hypodermic syringe and some ampules of Autolysin The syringe he already possesses Autolysin he may secure, if he is a legally qualified practitioner by writing," etc. Incidentally the book is advertised to the Intelligent Layman

Isn't it beautiful? Too bad the lamented F F F with his mock turtles or those prominent eugenists of scopolamin-morphin fame could not take a lesson in advertising It was not very long ago that we were invited to come East and learn how to use 'autolysin," or else pay the rather heavy fee for an imported tutor Now all we need is a 'gun' and some of the 'dope ' All this is interesting in view of the recent article on the failure of "autolysin' in mouse tumor It is a foregone conclusion that a lot of "autolysin' will be used, so cancer patients, who have been told that they have cancer, will get better through suggestion and a lot of enthusiastic reports will pour in from medical brethren who have never studied psychology Then the thing will slump and we shall all be ready for the next fad

Nevertheless, each one of these things furnishes us with a text for another sermon on ethics of medical advertising so I suppose they do not live in vain

J W Force, M.D., Berkeley Calif
Assistant Professor of Epidemiology University of California

[Comment —With each of the foregoing communications is a circular letter from the Goodhue Company, advertising Dr Henry Smith Williams' book on "The Autolysin Treatment of Cancer" With this circular is a booklet entitled "Notes on the Treatment of Inoperable Cancer with the New Remedy Autolysin (Horowitz-Beebe) Issued by the Autolysin Laboratory" Similar circular letters and pamphlets have been sent to The Journal from various parts of the country The Goodhue Company, publishers, therefore are apparently killing two birds with one stone—advertising the book as well as "autolysin"

The Journal has been informed that Henry Smith Williams in some of his magazine articles uses the pen name "Stoddard Goodhue," and that Henry Smith Williams is a part owner of the Goodhue Publishing Company

Articles on "autolysin" will be found in The Journal, Nov 6, 1915, pp 1641, 1647 and 1662 The article on "Action of 'Autolysin' on Mouse Tumors," by Dr Francis Carter Wood, appeared in The Journal, Jan 8, 1916 —Ed]

Nitrous Oxid Versus Ether

To the Editor —It was with much interest that I read Dr A R Warner's article (The Journal, Dec 4, 1915, p 1973) and the letter of Dr A S McCormick (Jan 1, 1916, p 49) commenting on the same Both writers seem to regard it of considerable importance that a patient should not vomit while in transit from the operating table to the bed I fail to see why such vomiting is harmful or disgraceful or anything more than a mild nuisance, provided a reasonably intelligent attendant is at the patient's head, armed with an emesis basin and ready to render such services as may be necessary

We cannot get away from the fact that, with ether patients, more or less vomiting is sure to take place in a large percentage of cases In these cases I have always held that, *other things being equal, the sooner the patient vomits after the operation is over*, the better For, if we add an extra quantity of ether in order to postpone the inevitable for five or ten minutes, we are deliberately prolonging the anesthesia merely for the sake of appearances and the comfort of those whose office it is to convey the patient to his bed

As regards nitrous oxid-oxygen anesthesias, vomiting takes place, according to my experience, in a proportion of cases by no means insignificant, even when the anesthesia has been satisfactory and no ether has been required These patients, however, do not vomit, as a rule, in the hallways or on the elevators Instead they vomit on the operating table immediately after the withdrawal of the anesthetic

William L Soule, M D, New York

Queries and Minor Notes

Anonymous Communications and queries on postal cards will not be noticed Every letter must contain the writer's name and address but these will be omitted, on request

URINARY TESTS — ACIDOSIS AND ITS TREATMENT

To the Editor —1 What are the tests for diacetic acid, acetone and indican in the urine?

2 What is the difference between acidosis and acidemia?

3 What is the treatment for these conditions?

F W Linn, M D, Cleveland

Answer.—1 Tests for diacetic acid, acetone and indican in the urine appear in practically all textbooks on clinical diagnosis or laboratory methods Any of the following books may be consulted

Emerson Clinical Diagnosis, Philadelphia, J B Lippincott Company, $5

Webster Diagnostic Methods, Philadelphia, P Blakiston's Son & Co, $4 50

Sahli Diagnostic Methods, Philadelphia, W B Saunders Company, $6 50

Simon Clinical Diagnosis, Philadelphia, Lea & Febiger, $5

2 The term "acidemia" occurs occasionally, but has no standing Acidity of a fluid depends on the concentration of free hydrogen ions in it Normal arterial blood contains about the same number of free H ions as distilled water When an amount of acid, as carbonic or fatty acid, enters the blood, it does *not* increase the number of free H ions in the blood by the same number as it contains itself in isolated form, and hence does not give rise to a degree of *acidity of the blood corresponding* to its own acidity The blood has the property of resisting influences that tend to change its reaction, but of course this resistance is limited, *and its range is narrowed* whenever acids enter the blood When a small amount of acid enters the blood, there is only a very slight increase in the concentration of free H ions, but the amount of acid now required to produce a real acidity would be less than before The removal of this condition depends on the activity of the excretory organs, *but if the condition is not sufficiently* countered and persists, it is known as acidosis If the amount of acid added to the blood is so great that the limit of resistance to change to *acidity is passed, the* H ion concentration would be greatly raised, but the fluid would no longer be blood in a physiologic sense The term "acidemia," therefore, should not be used, because it seems to imply an acidity of the blood such as cannot obtain in a living animal Acidosis was the subject of a symposium before the New York Academy of Medicine, abstracted The Journal, Jan 8, 1916, p 143

Tests of the acidity of the urine may be used to detect acidosis Palmer and Hendersen (*Arch Int Med*, August, 1913, p 153) say that "a condition of acidosis may be assumed to exist when the administration of a quantity of alkali equivalent to 1 liter of tenth-normal alkali fails to produce a diminution in the acidity of the urine"

3 *The treatment of acidosis has been previously considered* under the heading of Therapeutics, The Journal, Oct 10, 1914, p 1296, and Queries and Minor Notes, March 25, 1911 p 917 A more recent discussion appears *in this* issue of The Journal under the heading of Therapeutics The treatment recommended for acidosis is naturally the administration of large doses of alkali, according to the reaction of the urine tested on a specimen taken from six to eight hours after administration of the alkali The method of Fischer consists in giving a hypertonic solution (sodium chlorid, 14 gm, sodium carbonate, 10 gm, and water 1,000 c.c) by rectum by the drop method in doses of 500 c.c at a time, twice a day If the patient shows symptoms of impending *uremia*, 1,000 c c *may* be given by rectum or even intravenously

THE COMPARATIVE VALUE OF STRONTIUM BROMID AND OTHER BROMIDS

To the Editor —Kindly ask the author of the article on "Epilepsy," The Journal January 8, to explain lines 42 to 45, p 116, second *column* It seems to be a case of 'concise writing" as mentioned on page 136

J L Tracy, M D, Toledo, Ohio

Answer —The lines to which our correspondent refers read

However, dose for dose, less strontium bromid is active than sodium bromid or potassium bromid

The lines should have read

However, dose for dose, strontium bromid is less active than sodium bromid or potassium bromid

The reason for this is readily seen by comparing the molecular weights of the official bromids of sodium, potassium and strontium ($NaBr = 102\,92$, $KBr = 119\,02$, $SrBr_2 + 6H_2O = 355\,57$) Sodium bromid contains about 77 per cent of bromin, and potassium bromid contains about 67 per cent, since the official strontium bromid contains only about 45 per cent of bromin—about two-thirds as much bromin as that contained in potassium bromid and about *three-fifths* as much as that contained in sodium bromid—it might be expected that the bromin action from the strontium bromid would be much less than that from either of the other two salts That *the strontium* salt of salicylic acid *has no* advantages *over the sodium* salt was pointed out in the report of the Council on Pharmacy and Chemistry on Rheumalgine (The Journal, June 26, 1915, p 2156) This is confirmed by an article by M A Blankenhorn on strontium salicylate which appears in The Journal, this issue, p 331

The Antivaccinationists—Jenner lived ahead of his day, but we are rapidly *returning to* ante-Jenner days—*Buffalo Sanitary Bulletin*

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Florida Homeopathic, Jacksonville March 10 Sec., Dr J B Griffin, St Augustine

Iowa Des Moines, Feb 8 10 Sec. Dr G H Sumner, State House, Des Moines.

Kansas Topeka Feb 8 Sec. Dr H A Dykes Lebanon

Vermont Montpelier Feb 8 11 Sec Dr W Scott Nay, Underhill

Georgia October Report

Dr C. T Nolan, secretary of the State Board of Medical Examiners of Georgia, reports the written examination held at Atlanta, Oct. 12, 1915 The total number of subjects examined in was 10, total number of questions asked 100, percentage required to pass, 80 The total number of candidates examined was 27 of whom 14 passed and 13 failed Eight candidates were licensed through reciprocity The following colleges were represented

PASSED

College		Year Grad	Per Cent.
Birmingham Medical College	(1914) 80, 80,	(1915)	81 1
Howard University		(1915)	82 3
Bennett Medical College	(1914) 86 6,	(1915)	86 9
University of Louisville		(1915)	83 6
Johns Hopkins University	(1914) 89 7	(1915)	89 5
Jefferson Medical College		(1915)	90
University of Pennsylvania		(1915)	87 4
Meharry Medical College	(1914) 80 83	(1915)	80

FAILED

College		Year Grad	Per Cent.
Birmingham Medical College		(1915)	71, 73 1 74 5
Atlanta Medical College		(1915)	78 2 78 6
Atlanta School of Medicine		(1909)	72 7
Chicago College of Medicine and Surgery		(1915)	65 7
Meharry Medical College	(1908) 73 (1912) 75 2	(1915)	76.9, 77 2
Knoxville Medical College		(1908)	71 8
Vanderbilt University		(1915)	78 5

LICENSED THROUGH RECIPROCITY

College	Year Grad	Reciprocity with
Howard University	(1909)	W Virginia
American Medical Missionary College	(1899)	Tennessee
Hospital College of Medicine, Richmond	(1905)	Kentucky
University of Louisville	(1915)	Kentucky
Columbia University College of Phys. and Surgs	(1904)	New Jersey
Woman s Medical College of Pennsylvania	(1909)	Penna
Meharry Medical College	(1909)	Tennessee
Vanderbilt University	(1915)	Arkansas

Iowa Reciprocity Report

Dr Guilford H. Sumner secretary of the Iowa State Board of Medical Examiners, reports that 22 candidates were licensed through reciprocity from January to October, 1915 The following colleges were represented

College	Year Grad	Reciprocity with
University of Colorado	(1911)	Colorado
University of Georgia	(1911)	Georgia
Chicago College of Medicine and Surgery	(1914)	Missouri
Northwestern University	(1908)	Michigan
Rush Medical College	(1876)	Missouri
Medical College of Indiana	(1881)	Nebraska
Detroit College of Medicine	(1911)	Michigan
University of Michigan Medical School	(1914)	Michigan
Minneapolis College of Physicians and Surgeons	(1906)	Minnesota
Barnes Medical College	(1897)	Missouri
St Louis University	(1905)	Missouri
Washington University	(1912)	Missouri
John A Creighton Med Coll (1911 2) (1912 2)	(1913 2)	Nebraska
University of Buffalo	(1899)	Penna
Medico-Chirurgical College of Philadelphia	(1898)	Penna
Marquette University	(1914 2)	Wisconsin

Minnesota October Report

Dr Thomas S McDavitt secretary of the Minnesota State Board of Medical Examiners reports the oral, practical and written examination held at Minneapolis October 5 8, 1915 The total number of subjects examined in was 16, total number of questions asked, 80, percentage required to pass 75 The total number of candidates examined was 11, of whom 9 passed and 2 failed Twelve candidates were licensed through reciprocity The following colleges were represented

PASSED

College		Year Grad	Per Cent
Rush Medical College		(1915)	86, 86
Fort Wayne College of Medicine		(1898)	80
University of Louisville		(1909)	75
Harvard University	(1902) 84	(1915)	86
University of Minnesota		(1916)	87,* 93*
Western University, London, Ont		(1915)	77

FAILED

College	Year Grad	Per Cent
Chicago College of Medicine and Surgery	(1915)	75†
Hamline University	(1904)	73

LICENSED THROUGH RECIPROCITY

College		Year Grad	Reciprocity with
College of Physicians and Surgeons, Chicago		(1903)	S Dakota
Northwestern University		(1913)	Illinois
Rush Medical College	(1908)	(1913)	Illinois
University of Illinois		(1914)	Illinois
State University of Iowa College of Medicine		(1915)	Iowa
Tulane University of Louisiana		(1906)	Louisiana
Johns Hopkins University		(1914)	Missouri
University of Maryland		(1911)	Maryland
Washington University		(1911)	Missouri
University of Nebraska		(1914)	Nebraska
University College of Medicine Richmond		(1907)	N Carolina

* These candidates did not complete their work with the class of 1915 They have now completed the work of the curriculum and will be recommended for their degrees at the next meeting of the administrative board

† Fell below the required average in three subjects.

Oklahoma October Report

Dr R. V Smith secretary of the Oklahoma State Board of Medical Examiners, reports the oral and written examination held at Oklahoma City Oct 12-13, 1915 The total number of subjects examined in was 11, total number of questions asked 100, percentage required to pass 70 The total number of candidates examined was 15 including 1 osteopath all of whom passed Eighteen candidates, including 2 osteopaths were licensed through reciprocity Four candidates, including 1 nongraduate, were granted reregistration licenses The following colleges were represented

PASSED

College		Year Grad	Per Cent
University of Arkansas	(1912) 73	(1913)	78
University of Louisville		(1909)	85
Tulane University of Louisiana		(1907)	86
Baltimore Medical College		(1903)	85
Johns Hopkins University		(1912)	87
Detroit College of Medicine and Surgery		(1915)	86
University Medical College Kansas City		(1912)	81
University of Oklahoma		(1915)	81, 87
Jefferson Medical College		(1909)	90
University of Tennessee	(1914) 75	(1915)	82 85

LICENSED THROUGH RECIPROCITY

College		Year Grad	Reciprocity with
Arkansas Industrial University		(1898)	Arkansas
University of Arkansas		(1911)	Arkansas
University of Kansas		(1913 2)	Kansas
Kentucky School of Medicine		(1905)	Kentucky
Tulane University of Louisiana		(1908)	Texas
St. Louis College of Physicians and Surgeons		(1910)	New Mexico
St. Louis University		(1906)	Kansas
Omaha Medical College		(1901)	Nebraska
Eclectic Medical College Cincinnati		(1894)	Kansas
Pulte Medical College		(1880)	Nebraska
University of Nashville		(1909)	Tennessee
University of Tennessee		(1909)	Tennessee
Vanderbilt University		(1914)	Tennessee
Fort Worth School of Medicine	(1909)	(1912)	Texas

Rhode Island October Report

Dr Gardner T Swarts secretary of the Rhode Island State Board of Health reports the practical and written examination held at Providence, Oct 7-8, 1915 The total number of subjects examined in was 7, total number of questions asked, 60 percentage required to pass 80 The total number of candidates examined was 18, of whom 15 passed and 3 failed. The following colleges were represented

PASSED

College		Year Grad	Per Cent.
Georgetown University	(1914) 93 5	(1915)	87 5
College of Phys and Surgs. Baltimore	(1914) 80 1	(1915)	88 1 88 7
Harvard Univ (1913) 82.2	(1914) 87 5 90.2	(1915)	84 9 85 91
Tufts Coll Med School	(1908) 81 8 (1914) 89.2	(1915)	83 7 84 4

FAILED

College		Year Grad	Per Cent.
Jefferson Medical College	(1912) 77 3	(1914)	78 3
Medico-Chirurgical College of Philadelphia		(1915)	77 9

Book Notices

The Physiology of the Amino Acids By Frank P Underhill, Ph D, Professor of Pathological Chemistry, Yale University Cloth Price, $1 35 net Pp 169, with illustrations New Haven Yale University Press, 1915

In this handy little volume, Underhill reviews the great progress which has been made in our knowledge of biology, and especially in the physiology of nutrition, through the disclosure of the composition of the protein molecule as a complex of amino acids As the knowledge thus gained is fundamental to any grasp of the problems of digestion and metabolism in health and disease, and as this information has been obtained so recently that it was not included in the education of most practicing physicians, the presentation of so compact and clear a summarization of the subject is a most commendable enterprise The author has evidently written with the needs of the progressive practitioner and student foremost in his mind, and has provided a statement that should be readily understood by them

After a brief description of the composition of the proteins and amino acids, there are discussions of their behavior in digestion, absorption and intermediary metabolism A final chapter gives the essential facts of the role of the several amino acids in nutrition, especially as disclosed by the important investigations of Osborne and Mendel

The work is exceptionally readable, and there is a noticeable simplicity and lucidity that add much to its value for the use of practitioners not specially trained in biologic chemistry Only the most essential work is, of course, covered in so small a volume We notice no important omissions Criticism may be directed to the importance ascribed to Abderhalden's detection of free amino acids in drawn blood and the omission of reference to the previous and much more valuable demonstration of amino acids in circulating blood by Abel, but this is a minor matter Every physician who wishes to keep abreast with this important development in physiology should take advantage of the opportunity offered by Underhill to obtain the necessary information in so concise, inexpensive and readable a treatise

Contributions to Practical Physiology and Pharmacology By Charles Claude Guthrie, Professor of Physiology and Pharmacology, University of Pittsburgh Medical School Paper Gratis Pp 71, with 74 illustrations

The author urges that students of physiology be provided with apparatus in order that their minds may not be distracted from the physiologic phenomena to be revealed by their experiments He has devoted thought and ingenuity to improvements in apparatus, and in this brochure laudably offers the fruits of his efforts to others There are diagrams, illustrations and descriptions of several devices that have s ood the test of hard usage, they are clever and should furnish valuable hints to other laboratory teachers In some cases, however, there is hardly enough detail given to enable one to reproduce the apparatus readily, and in any case an accurate mechanic and well appointed machine shop must be available

Quantitative Laws in Biological Chemistry By Svante Arrhenius, Ph D, M D, LL D, Director of the Nobel Institute of Physical Chemistry Cloth Price, 6 shillings net Pp 164 London G Bell & Sons, 1915

In 1907, Arrhenius published his book on immunochemistry, which discussed the application of the laws of physical chemistry to the processes of immunity and enzyme activity and related phenomena Coming from the great pioneer in physical chemistry, the work attracted much attention from those engaged in investigations in immunology and in physical chemistry, but, judged by the standard of its influence on the subsequent development of these sciences, it seems to have had little effect For the most part, the immunologists seemed to feel that the methods available for quantitative measurements of immunity reactions are far too inexact to give results suitable for the deduction of physicochemical laws Certain it is that the entrance of Arrhenius into this field has not resulted in the expected recruiting of many other workers along similar lines

His latest book treats of much the same subjects as the immunochemistry, and is based on the Tyndall lectures given by him in 1914 He asserts the need for the development of this side of biologic chemistry, saying "I am convinced that biologic chemistry cannot develop into a real science without the aid of the exact methods offered by physical chemistry The aversion shown by biochemists, who have in most cases a medical education, to exact methods is very easily understood They are not acquainted with such elementary notions as 'experimental errors,' 'probable errors,' and so forth, which are necessary for drawing valid conclusions from experiments The physical chemists have found that the biochemical theories, which are still accepted in medical circles, are founded on an absolutely unreliable basis and must be replaced by other notions agreeing with the fundamental laws of general chemistry"

The book is of so technical a character that it will be read only by those well versed in physical chemistry, for whom, and the student of fundamental problems of immunology, it will have interest

Medical and Veterinary Entomology A Textbook for Use in Schools and Colleges as Well as a Handbook for the Use of Physicians, Veterinarians and Public Health Officials By William B Herms, Associate Professor of Parasitology in the University of California Cloth. Price, $4 Pp 393, with 228 illustrations New York The Macmillan Company, 1915

Medical entomology is a relatively new science of immense economic and sanitary importance, for example, the cost of screening, fly poisons, etc, has been estimated to exceed twelve million dollars annually The author has prepared in systematic form a discussion of various insects and parasites, and of their relation to disease in man and in animals The articles on the mosquito, the house-fly and the ticks are especially to be commended There are numerous references to literature, but the author does not attempt to give a complete bibliography of any field He has, however, followed closely recent literature on his subject, so that his book is thoroughly up to date Further, it contains several original observations which have not yet appeared in any other publication Sections are devoted to methods of prevention and control of insect pests, as well as to the treatment of bites and stings The latter, of course, are rather trivial in character, in view of the greater importance of insects in the transmission of serious diseases. The book is excellently illustrated It is to be especially recommended to American readers as the production of an American author who does not slight the important researches made in this country

Rules for Recovery from Pulmonary Tuberculosis A Layman's Handbook on Treatment By Lawrason Brown, M D Cloth Price, $1 Pp 173 Saranac Lake, N Y The Author, 1915

The author has no fads to advocate, nor pet theories to exploit Having for a long time been associated with the lamented Trudeau in his tuberculosis work at Saranac Lake, Dr Brown knows the problems that face the consumptive who attempts to live a life that shall make him an acceptable member of society, rather than a person to be shunned He has presented his subject in simple language, so that the average layman may understand it. The afflicted is instructed how to live, so that he may not only prolong his own life as much as possible, but may also protect his relatives and friends who may be associated with him The book is an ideal one to put into the hands of the consumptive, and of those who have consumptives to care for

Bandaging By A D Whiting, M D, Instructor in Surgery in the University of Pennsylvania Cloth Price, $1 25 net Pp 151 with 117 illustrations Philadelphia W B Saunders Company, 1915

In this book the author has repeated the material given in his course on this subject at the University of Pennsylvania The book is elementary in character and wholly practical Illustrations occur on almost every page, detailing the various steps in applying dressings and bandages of every type

Medicolegal

When Husband Not Liable for Medical Services or Attendance on Childbirth

(Johnson vs Coleman (Ala.), 69 So. R. 318)

The Court of Appeals of Alabama reverses a judgment obtained by the plaintiff, a physician, who sued a husband for $10 as the reasonable value of professional services rendered to the latter's wife during childbirth while living apart from him. The court says that medical services are necessaries within the contemplation of the rule making the husband liable for necessaries furnished to the wife, and when such services are necessary the husband cannot escape liability therefor by showing that he did not call in the physician, or even that the physician was called in against his consent and over his objections. If, however, through no fault of the husband, the wife abandons his home and refuses to live or cohabit with him, he is not responsible for her necessaries, unless expressly requested by him, and persons furnishing her with the same under such circumstances cannot, on any theory of an implied request or of implied agency of the wife to bind the husband, collect from the husband. And the mere fact that the wife is living separate and apart from her husband is sufficient notice to the public, who may deal with her, to put them on inquiry and to advise them that so far as the liability of the husband is concerned, they credit the wife at their peril, since the law is that in cases of separation the presumption is that the husband is not liable, placing the burden of proof on the party furnishing the necessaries to show that the separation took place under such circumstances as would render the husband liable, that is, took place as a result of his cruelty, violence, abandonment, or other misconduct or fault on his part. In this case it appeared without dispute in the evidence that three and a half months before the services were rendered the wife voluntarily abandoned the husband against his consent and without fault on his part, so far as appeared, and had ever since lived separate and apart from him at the home of her father, where she was at the time she gave birth to the child, and where at such time the plaintiff was called in over the telephone by some one at the house—not the husband—to minister to her needs. There was no dispute that the services were necessary, nor that $10, the amount recovered, was the reasonable value thereof, nor that the husband was the father of the child delivered, nor that the physician had not heard of the separation before the time he was called in. The sole insistence of the husband was that he was not liable for the physician's fee on account of the fact that the wife had, at that time, abandoned him and was then living apart from him, over his objection and through no fault of his own. And plaintiff's counsel admitted that if the services sued for had been such that it could be said that they were rendered exclusively for the wife's benefit, the nonliability of the defendant contended for would then hold good, but it was insisted that where the services were, as here, equally as necessary to the preservation of the life of the child, the defendant's own offspring, as of the wife, its mother, then the defendant was liable, not on any theory of liability for necessaries furnished his wife, who had abandoned him but on the theory of his liability for necessaries furnished his child. The court answers that by quoting "The husband remains liable for the support of his minor children where he and his wife voluntarily separate, or where he consents to the children living with the mother, or where the wife leaves him for good cause, but it is otherwise where the wife leaves without cause, taking the children with her." Wherefore the judgment for the plaintiff must be reversed.

Industrial Health Prerequisites.—A proper place to work, and safe methods of working, and some knowledge of the dangers to health and life are prerequisites to conducting any business or to working, no matter whether one man or a thousand are concerned and whether the individual is an employer or an employee.—*Ohio Public Health Journal*

Society Proceedings

PHILADELPHIA COUNTY MEDICAL SOCIETY

Meeting held Wednesday, Jan. 12, 1916

The President, Dr. E. E. Montgomery, in the Chair

SYMPOSIUM ON IMPORTANT EVERY-DAY ECONOMIC AND ETHICAL PROBLEMS OF THE PRACTITIONER OF MEDICINE

The Problem of Increasing the Physician's Income

What Shall We Do to Be Saved?

Dr. Thomas F. Reilly, New York. The principal reason the profession has not solved this problem is an erroneous concept of altruism which has failed to acknowledge that money is desideratum to the doctor. The high cost of living, which makes the dollar of today have a smaller purchasing value than 50 cents had twenty years ago, renders the situation acute. Every one, except the doctor, has raised his charge for services. The doctor has improved his service to the community by his use of telephone and automobile, by more thorough examination, and in other ways, yet he has not capitalized any of these improvements in service. The fees for ordinary services can be raised only by (1) a concerted effort of the physicians of a community, or (2) by the independent raising of fees by the individual physician. In a small community, charges can best be raised by concerted effort on the part of more than half of the practitioners in the locality. In large cities the county society is the only medium through which just fees for professional service can be determined and announced. Other organizations are more or less of mushroom growth, when they are started they look promising but almost invariably they fade away after a year or two. In large cities, permanent medical organization is not an easy thing to bring about. Attempts to bring all of the members of the profession into one body, even though the aim be for the common good, are but empty dreams. Most of the profession would rather be sacrificed than find their names bracketed with crooked sticks and doubtful moralists. It should be feasible in a large city for the county society to insert paid advertisements and reading notices explaining to the public the high cost of medical life, and then follow this with a statement of approved charges for physician's services founded on a living wage. Iteration and reiteration of this matter will make practicable the collection of higher fees by the individual practitioner. When fees are to be raised by the individual physician, independent of the society, it may be advisable to make the change by first doubling the fee for the first examination, at a later period, all counsel can be charged for at the new fee. To do this the physician must give better service—a more thorough examination at the first visit and special treatments at each succeeding visit. It is sheer folly for general practitioners to criticize proper fees charged by specialists and surgeons, simply because these charges are larger than the amount collected by the general practitioners for routine service.

Ethics of Fees and Fee Splitting

Dr. John B. Roberts. Graduates in medicine at the present time may choose (1) a strictly scientific medical career, (2) a sociological one, (3) a pedagogic service or (4) the mere treating of disease. The last was the only vocation formerly adopted by physicians. In the three forms of professional life first mentioned there is no question arising as to fees. The laboratory man, the municipal officer and the college teacher receive a definite salary. The ethical point which presents itself to the therapeutic doctor is, How much value shall he place on his services rendered to a sick or injured patient? It must be determined by the quality and duration of attendance and the responsibility assumed by the doctor. The relation is not entirely a commercial one but has a professional nature like that of a lawyer or priest. The physician must, therefore, be willing to reduce his charge from what he would ask when the patient is known to be unable to pay a just and proper fee If the doctor is unwilling to do this he should not assume the relation of professional adviser to a man probably unable to pay his full fee The term "fee splitting" has been used to describe the giving of a commission by a specialist when a case of disease or injury is referred by another physician The term is a bad one because it does not include in the title the real point which makes the division of a fee reprehensible, namely, the secrecy of the cleavage The patient's money may be divided among as many doctors as you please, provided the patient knows who gets his money—is fully informed as to the terms of the transaction

Psychology of the Physician as a Wage Earner

Dr **Charles W Burr** I was somewhat astonished the other day at being told that I am a wage earner In the simplicity of my innocence I had believed, or subconsciously assumed, that physicians did not get wages, but deigned to accept fees I thought we did things daily that are not paid for, that cannot be paid for, save in a coin that has a different ring than gold How does the physician differ psychologically from other wage earners? What is the defect in his mentality compelling him to continue poor but honest, instead of as our advisers would like us to be, rich and wicked, according to the new morality In any psychologic study the factors compelling and controlling conduct are of first importance If, then, the influences which lead men to become physicians are of the kind which would not influence men in general, physicians have a peculiar psychologic makeup—are abnormal, or superior Chance, choice and destiny make men physicians Excluding the small percentage of men who go into medicine from purely altruistic motives, there are five classes of men who study medicine (1) those who do not want to work with their hands, because they imagine it is easier to work with the mind and much more respectable, (2) those who think medicine is a gentlemanly occupation and sometimes enables one to marry a rich wife, (3) the men who believe they can make money by criminal practices without being caught, (4) those who think they can make money, notwithstanding the general opinion to the contrary, and (5) those who have a hunger for things intellectual, are drunk with scientific inquisitiveness and curious to learn the secrets of that strange machine, the living animal When destiny agrees with choice we have the student who alone should be encouraged, and of this type there are enough to meet the need of the country for physicians The time is coming when these physicians by choice and destiny alone will survive, and there will be no need of discussions on the salvation from being poor I do not find anything in the physician as a wage earner differentiating him from the rest of the world I think about as many physicians proportionately as business men are making an income of $10,000 a year, which amateur sociologists tell us means success I do not find the physician more careless in business matters than other people There is, however, a psychologic answer to the wage question among physicians, that of permitting to study medicine only those in whom choice and destiny combine The few schools of the better class have already taken steps in this direction When low class medical schools cease to exist, the wage question will take care of itself

Safe and Sane Investments for Physicians

Mr **Thomas S Gates**, President of the Philadelphia Trust Company There is a science of investments, just as there is a science of medicine Your profession would view with contempt "patent medicine" advertisements, yet many of the alluring invitations to invest money are quite as remote from the proper fields of investment as the "patent medicine" bottle is from the intelligent doctor Stocks and bonds which are fundamentally most desirable do not appeal for buyers through the paper at all Those who are not actively engaged in the business of caring for money would do well to regard that function as a specialized one, and enter it on their own account with the same caution that a banker, for instance, would attempt to write a prescription A few cardinal principles, positive and negative, govern the investment of money Regarding the negative rules, let me say that the mere fact that one has money to invest is no argument for doing so at the moment, ruling prices should be considered If the temptation is to buy a stock rather than a bond, remember that in buying stock you become a partner in the business and should know something of its management and of the industrial conditions surrounding it If the temptation is to buy a mining investment, the important point to bear in mind is that a mine is ever consuming itself Further, the salability of an investment must not be overlooked If the first judgment in making the purchase was wrong, it is better to face a loss and start over again than to stick to a bad bargain On the positive side, it may be stated that the busy professional man invests his accumulated earnings to better advantage if he assumes certain fixed charges whereby his savings month by month are placed in the hands of those qualified to make earnings pay One of the best forms of such investments is that of life insurance, which, as operated today under state regulation, gives the protection of savings for after years with a larger payment in case of death Then there is the building and loan association This is also under state control, and when well managed yields the investor a very fair return and gives him an investment on real estate security, which in the last analysis is the highest form possible

The world has regarded investment in anything other than land as legitimate for only a few generations For many centuries the church proscribed the taking of interest as a moral offense, and the laws of nearly all civilized countries made it a crime, while the voice of publicists and ethical writers were raised against it The origin of this prejudice is commonly attributed to a passage in Aristotle to the effect that as money does not produce money, nothing more than the principal sum loaned could be equitably claimed, and to John Calvin is attributed the high honor of having first detected the fallacy of this argument by observing that while money does not produce money, that which may be purchased with money does, and that herein is a perfect justification for the payment of interest

A mortgage on real estate is not a particularly good investment for a doctor unless the mortgage is in the hands of some one who can attend to the details of the condition of the property In the buying of a bond, which is the lending of money to a corporation, the purchaser should ascertain that the corporation occupies a satisfactory place in the industrial field in which it moves, that the bond is secured by a first mortgage protected by an adequate sinking fund, does not run for too long a time, and is salable Business and professional men successful in making money give surprisingly little thought to its safe investment, they follow individual hobbies, and lose The point to be always borne in mind is the difference between money invested or loaned at interest and money embarked in speculation The rules which obtain in the making of an investment obtain also in its sale A bond may have maintained a certain fixed price for a considerable period, yet if its sale is improperly handled the price may greatly fall This may be observed in the offering of a few bonds to several brokers, who in turn may offer them to several banks resulting in an apparent avalanche of the particular bond In conclusion I may say that to the average person the purchase of stocks offers no investment at all He becomes only a small partner in an uncertain enterprise There is needed the technic of the professional trader or the fatuous stroke of luck to spell success, and as to these, it is observed that the few who have the gift of winning tell us the least of how it is done.

The Duty of the County Society

Dr **John B McAllister**, Harrisburg, Pa When I read the program for tonight's meeting I thought the best investment I could make would be that of my time in coming here It has been a good investment of time, and I regard it as unfortunate that such subjects are not more frequently discussed in our medical associations There was a time when a physician prided himself on working hard and living and dying in poverty It is fortunate that the physician has awakened to the importance of looking after the business part of his life I wish that the men who have read these papers tonight could visit all the sixty-three county societies in this state and give this symposium It would help the profession and it would help our state society

---

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below

American Journal of Obstetrics and Diseases of Women and Children, York, Pa

January LXXIII No 1 pp 1 192

1 *High Degrees of Heat vs Low Degrees of Heat as Palliative Treatment for Advanced Cases of Carcinoma of Uterus H J Boldt New York
2 Contraction Ring Dystocia P T Harper Albany N Y
3 *Treatment of Uterine Hemorrhage by Roentgen Ray J A Corscaden New York.
4 Toxemia of Pregnancy R. Moulden Friendship Heights Md
5 Case of Pelvic Cellulitis or Phlegmon Ligneux of Pelvis W A Jayne Denver
6 Marriage. G E Malsbary Los Angeles.
7 *Teaching of Obstetrics C E Ziegler Pittsburgh
8 *Surgical Operations During Pregnant State. F Reder St. Louis
9 Value of Pituitary Extract in Obstetrics and Gynecology S W Bandler New York
10 *Study of Forty Five Hundred Menstrual Histories K. I Sanes Pittsburgh
11 Principles of Gynecology H S Lott Winston N C
12 *Anesthesia in Gynecologic Operations R R Huggins Pittsburgh
13 Colloidal Silver in Sepsis G Van Amber Brown Detroit
14 Transposition of Bladder and Uterus for Cure of Cystoceles and Descensus Uteri L. F Smead Toledo

1 Abstracted in The Journal, Jan 8, p 142

3 **Roentgen Treatment of Uterine Hemorrhage**—Corscaden s results have been as follows in twenty women 38 years of age and over whether possessing fibroids or not Complete amenorrhea in 5 per cent from the onset, in 5 per cent after one period, in 5 per cent after three periods and in 85 per cent after two periods The first period occasionally is profuse All of the cases have been severe enough partially or completely to incapacitate the women Activities were resumed usually about three weeks after the first exposure Corscaden has attempted this treatment in younger women twice, these cases have been recent and have presented no difficulties Amenorrhea for three months followed by scant flow for two periods in one case and an oligomenorrhea of six months followed by a profuse flow which responds to treatment in the second, have been the results obtained Severe untoward effects have occurred in only two cases One patient suffered from nausea and diarrhea, the other from diarrhea indistinguishable from mucous colitis Many of the women felt fatigued for a day or two and a few suffered headaches, albumin and casts appeared in the urine of one woman No late effects other than those accompanying the menopause have been noted save in one case in which there was an attack of uremia six months after the end of treatment in a woman suffering from large polycystic kidneys No dermatitis has resulted from the dosage A small linear burn occurred in the first case treated because of imperfect apposition of the lead protection Slight vesication resulted but the skin became normal again in six weeks This accident has not recurred

Corscaden says that menstruation is dependent on the activities of the corpus luteum The Roentgen rays destroy the follicle apparatus of the ovary and thereby automatically bring about a menopause. All patients with myomas which do not constitute an immediate or remote menace aside from that of hemorrhage are proper subjects for the production of the menopause, provided that ulcerative changes or pedunculated fibroids or polyps do not exist, and provided that the possessor be over 37 years of age All myomas which constitute a menace in women under 38 should be excised rather than subjected to Roentgen rays unless operation is contraindicated In hemorrhage from malignant disease Roentgen rays are contraindicated

7, 8 10 and 12 Abstracted in The Journal, Oct 2, 1915, pp 1213 and 1214

American Journal of Orthopedic Surgery, Boston

January XIV No 1 pp 1 58

15 Treatment of Tuberculous Arthritis. J J Nutt, New York
16 Tarsectomy for Relapsed Club-Foot A G Cook, Hartford, Conn
17 Tendon Fixation in Infantile Paralysis Review of One Hundred and Fifty Operations W E Gallie Toronto Canada
18 Fate of Bone Grafts G W Hawley, Bridgeport, Conn
19 Congenital Deformities of Vertebrae and Ribs, Report of Four Cases F G Hodgson Atlanta, Ga

American Journal of Physiology, Baltimore

January XXXIX No 3 pp 239 353

20 Initial Length—Initial Tension and Tone of Auricular Muscle in Relation to Myodynamics and Cardiodynamics R Gesell, St Louis
21 *Action of Various Pituitary Extracts on Isolated Intestinal Loop V N Shamoff Petrograd Russia
22 Secretory Discharge of Pituitary Body Produced by Stimulation of Superior Cervical Sympathetic Ganglion V N Shamoff Petrograd Russia
23 Origin of Cardiac Impulse in Turtle s Heart. W J Meek and J A E Eyster Madison Wis
24 Ionic Antagonism in Sensory Stimulation W J Crozier Cleveland
25 *Physiology of Stomach Effect of Experimental Partial Stenosis of Pylorus on Motility of Empty Stomach O J Elsesser Chicago
26 *Id Tonus and Contractions of Empty Stomach of Infants with Congenital Pyloric Stenosis Pylorospasm and Chronic Vomiting (Merycism) A. J Carlson and H Ginsburg Chicago
27 Resistance of Fresh Water Fish to Changes of Osmotic and Chemical Conditions W E Garrey St Louis
28 *Physiology of Empty Stomach Effect of Dreaming on Gastric Hunger Contractions A B Luckhardt Chicago
29 *Mode of Action of Ultraviolet Radiation in Injuring Living Cells with Special Reference to Those Constituting Eye. W E Burge, Chicago
30 *Effects on Gastric Secretion of Organ Extracts J Rogers J M Rahe G G Fawcett and G S Hackett New York.

21 **Action of Pituitary Extracts on Isolated Intestine**—It is stated by Shamoff that there exists in the posterior lobe of the pituitary body some substance which has an action on the isolated intestinal loop resembling the action of epinephrin, a substance, moreover, which may be other than that which raises blood pressure and causes diuresis The substance is not constant in the extractives prepared in the usual ways and may be inconstant in the fresh glands from which these substances are prepared Its presence or absence in the extracts may depend on the method of preparation The conclusion drawn by Shamoff is that certain posterior lobe preparations are capable of producing relaxation of the isolated intestinal loop and of inhibiting its rhythmic contractions resembling in this respect the extracts of the suprarenal medulla

25 **Experimental Pyloric Stenosis on Gastric Motility**—Elsesser found that partial pyloric stenosis in dogs produces hypertonicity, and hypermotility of the empty stomach, even if of but a few days' or weeks' duration These motor phenomena closely simulate those seen in man (filled stomach) with pathologic lesions of the pylorus The same conditions which lead to hypermotility, etc, during digestion, lead at the same time to increased motility of the empty stomach In other words, partial pyloric stenosis appears to produce a neuromuscular hyperactivity, independent of the presence of food in the stomach

26 **Tonus and Contractions of Empty Stomach of Infants**—The motor conditions of the empty stomach were studied by Carlson and Ginsburg in two infants, one with congenital pyloric stenosis, and one with pylorus spasm, chronic vomiting and rumination The results indicate that pylorus spasm and pyloric stenosis involve either primarily or secondarily a condition of hypertonus and hypermotility of the entire stomach The authors suggest that the excessive contraction of the pylorus may be an expression of this general hypermotility

28 **Effect of Dreaming on Contractions of**
Although the contractions of the empty stom
contractions) become more vigorous with the
during sleep because the inhibitory mechanism in

influenced by the sensory impulses reaching it through the optic, olfactory, and acoustic nerves (the exteroceptive field of Sherrington), Luckhardt states that the hunger contractions may be greatly diminished even during sleep if the sleeping state is accompanied by pronounced cerebral activity (dreaming) The same cerebral state which effects movements of the limbs, tail and muscles of the face effects an inhibition of the contractions of the stomach The inhibition is therefore purely central in origin, since it is not brought about by any impulse coming into the central nervous system by any known sensory nerve

29 **Injurious Action of Ultraviolet Radiation**—Burge claims that ultraviolet radiation kills living cells and tissues by changing the protoplasm of the cells in such a way that certain salts can combine with the protoplasm to form an insoluble compound or coagulum The effective region of the spectrum in changing the living material of the cell or protoplasm lies between 254 microns and 302 microns The most effective region is around 254 microns for the small quartz mercury burner used, and around 302 microns for the large quartz mercury burner used An opacity of the lens or cataract can be produced in fish living in solutions of those salts found to be greatly increased in human cataractous lenses by exposing the eye of the fish to radiation from a quartz mercury-vapor burner This cannot be done by exposing the eyes of fish living in tap water containing small quantities of these salts Abnormal quantities of the salts of calcium and sodium silicate in the cells of the eyelids and of the cornea increase the effectiveness of ultraviolet radiation in producing anterior eye trouble Abnormal quantities of calcium salts on the skin also increase the effectiveness of the short wave lengths in sunlight in producing sunburn

30 **Effects of Organ Extracts on Gastric Secretion**—The authors summarize their paper as follows The thyroid, or only the noncoagulable portion of an aqueous extract of the thyroid, contains a substance which is an active stimulant of both the gastric secretion and the gastric motility Only the residue portion of an aqueous extract of the parathyroid and thymus glands, and of the spleen and liver, have a similar effect Both the coagulable and the noncoagulable portions of an aqueous extract of the pancreas are vigorous stimulants of gastric secretion The pituitary and suprarenal residues inhibit the flow of gastric secretion All the stimulant residues seem to act on some peripheral gastric mechanism in which the nervous system is an essential part The residue, or noncoagulable portion of an aqueous extract of the pituitary, pineal, thyroid, parathyroid, thymus and suprarenal glands, and of the spleen and liver, contains all of the material which shows a demonstrable action on other organs

Annals of Surgery, Philadelphia

January, LXII, No 1, pp 1 128

31 Gas Bacillus Infection A M Fauntleroy, Washington, D C
32 Significance of Foreign Bodies in Tissues W Martin, New York
33 *Primary Neoplasms of Lymph Nodes Including Hodgkin's Disease W B Coley, New York
34 Surgical Anatomy of Thyroid and Parathyroids E H Pool and H C Falk, New York
35 Nonstrangulated Diaphragmatic Hernia Due to Indirect Injury D C Balfour, Rochester, Minn
36 Use of Free Omental Grafts in Abdominal Surgery L Freeman, Denver
37 *Ligation of Splenic Vessels as Substitute for Splenectomy in Blood Diseases A Troell, Stockholm, Sweden
38 *Repair of Small Vesicovaginal Fistula C H Mayo, Rochester, Minn
39 Method for Obtaining Uncontaminated Blood from Dogs and Other Animals C Goodman, New York

33 **Primary Neoplasms of Lymph Nodes**—One hundred and sixty-seven cases of primary neoplasms of the lymph nodes, including Hodgkin's disease, have been personally observed by Coley within the last twenty years Twenty-six of the patients have been treated successfully, that is, the tumors (inoperable) entirely disappeared with the mixed toxins of erysipelas and *Bacillus prodigiosus*, and have remained well from one to twenty-two years Nineteen patients remained well from three to twenty-two years Of 76 cases of sarcoma of the neck, 8 have remained well from two to fourteen years Of 24 cases of sarcoma of tonsil and neck, 5 have remained well from one and one-half to nine and one-half years Of 10 cases of sarcoma of the mesenteric and retroperitoneal glands, 4 have remained well from one to twelve years Of 17 cases of sarcoma of inguinal glands, 3 have remained well from four to seven years Of 18 cases of neoplasms primary in the axillary glands, 4 have remained well from three to nine years One case of sarcoma of mediastinal glands has remained well six years Of 21 cases of Hodgkin's disease 1 remained well for seven months after complete disappearance of the disease under five weeks' toxin treatment The patient refused further treatment and died of a recurrence one year later

In the list of cases of other men (treated under Coley's direction) one Hodgkin's case recovered, and remains well, at present, seven years later In a certain number of cases in which the tumor or tumors had entirely disappeared under the toxin treatment and the patients were apparently cured, the disease recurred at varying intervals from six months to six years The most important lesson to be learned from a study of these recurrent cases, Coley believes, is that in many of them the treatment was not kept up sufficiently long He is convinced that it is better to continue the treatment longer than may be absolutely necessary in a certain number of cases, rather than run the risk of a recurrence by too short a course of treatment in certain other cases In cases in which the toxins fail to control the disease, Coley says, it is advisable to use Roentgen rays or radium or both in conjunction with the toxins

37 **Ligation of Splenic Vessels**—Because of the danger of splenectomy Troell suggests ligation of a larger or smaller number of splenic vessels as a substitute He reports on many animal experiments made by him The operations were so far successful that peritonitis never occurred Healing followed without any trouble, the animals recovered soon after the operation and, with some few exceptions, seemed to do well However, the results of this series of operations in a way were not very encouraging because Troell had overlooked the fact that anastomosing branches which exist between the splenic and the gastro-epiploic vessels could be so extensive By ascertaining the anatomic state of the vessels, he found it very desirable to undertake a new series of ligations In this series care was taken, in order to cut off the blood supply to a certain part of the spleen, to place the ligature distal to the transverse branches extending between the individual arteries, or a supplementary ligation of the corresponding transverse anastomosing branches should be made This second ligature should, therefore, be placed and tied in the direction of the ligamentum gastrosplenicum, at a right angle with the first ligature Postoperative peritoneal infection did not occur As for the changes produced in the spleen itself, they consisted of an infarction of a greater or less portion of the organ, or in a simple reduction of the volume of the spleen without demonstrable infarcts

38 **Repair of Small Vesicovaginal Fistula.**—In cases in which the lumen does not exceed a quarter of an inch, the following procedure is recommended by Mayo An incision is made through the vaginal mucosa extending completely around the fistulous opening about a quarter of an inch or less from its margins The vaginal mucosa is dissected toward the opening, care being taken not to break through at the margin This makes a little cup or funnel-shaped opening projecting into the vagina The circular dissection is carried deeper around the fistula, not approaching nearer than one-eighth of an inch to the margin, its depth penetrating to the mucosa of the bladder but not through it This leaves a little bell or funnel-shaped opening lined with mucous membrane which is connected with the mucosa of the bladder and projects into the vagina A ligature carrier is passed through the urethra into the bladder and through the fistula into the vagina A suture is passed through both walls of the funnelled mucosa on each side of the ligature carrier The two ends of the silk suture are now threaded into the ligature carrier which is withdrawn from the bladder and urethra The ends of the suture projecting from the urethra are drawn on, and with a little aid the fistulous tract

starts inverting. As soon as the mucosa disappears a circular suture of fine chromic catgut is applied, a little more traction is used on the ends of the long suture and a second purse-string suture of catgut is applied. The vaginal side is now closed either by a circular suture of the chromic catgut or by interrupted sutures as seems best. This inversion turns the mucous surface into the bladder and leaves a healing surface within the tube. One of the long ends of the suture projecting from the urethra is rethreaded and by a needle is sutured to the skin of the labia. The two ends are now tied at this point, making slight traction.

A self-retaining catheter (Pezzer type) is inserted into the bladder and the patient is instructed to rest on her side or even on her face. This keeps the fistulous area free from urinary pressure. After four days it is necessary carefully to watch the catheter that sediment or phosphatic deposit does not obstruct its lumen. In some cases irrigation is necessary. However, the long suture attached to the inner side of the surface of the fistula and passing through the urethra acts as a safety valve of leakage should the catheter become temporarily plugged. After a week the repair is usually solid, but it is better to keep the patient on her side or face for a few days longer that no undue strain may be placed on the fistulous area, and during this time it is best to keep a catheter in, or if it is removed to have regular periods for passing it. The suture from within the bladder either cuts itself out with the slight traction before it is time to remove the catheter or it may be drawn out without difficulty by cutting one side where it is attached to the skin.

Boston Medical and Surgical Journal

January 1[illegible], CLXX[illegible], No. 2, pp. [illegible]-72

- 40 Gunshot Fractures of Extremities. R. B. Greenough, R. B. Osgood and B. Vincent, Boston.
- 41 Simulation of Esophageal Stenosis by Extensive Carcinosis of Lesser Curvature of Stomach. A. E. Austin, Boston.
- 42 *Simulation of Diabetes Mellitus. G. Blumer, New Haven, Conn.
- 43 Development of Gold Sol Paretic Reaction as Compared with Cerebrospinal Syphilitic Type. H. C. Solomon and E. S. Welles, Boston.
- 44 Syphilis and Psychopathic Hospital. E. E. Southard, Boston.

42. **Simulation of Diabetes Mellitus.**—Blumer cites the case of a woman, 35 years of age, sent to him for a pruritus of the vulva. The patient's family history was entirely negative. Her parents and her brothers and sisters were all alive and well and there was no history of nervous or mental disease in the family. As a child the patient had had measles, whooping cough, chickenpox, mumps, tonsillitis and scarlatina. There were no complications with any of these diseases. The menstrual history was normal. There was no venereal history. The patient had always been a good eater, fond of meat, sweets and candy. She was not on a special diet at the time she consulted Blumer. The patient dated the pruritus vulvae from a period twenty months before. It had appeared rather suddenly and had been present since that time. It varied in intensity and tended to be worse at night. It was severe enough at times to interfere with sleep. Urination increased the pruritus. There was no increase in the output of urine. The patient stated that she felt weak, but thought this due to loss of sleep. She had lost 20 pounds in the preceding nine months. There was no general pruritus. The appetite was not abnormal. The patient was very thirsty at times; at other times she "despised" water. She stated that occasionally she had severe frontal headaches with anorexia and even slight nausea. With these her face was flushed. She was more nervous than usual and tended to be constipated. The physical examination was almost negative.

The urine was light amber in color, hazy, acid in reaction, had a specific gravity of 1027, was free from albumin and gave a slight reaction for sugar with Fehling's solution. With Benedict's solution the copper was reduced in an amount that was estimated as representing about 0.25 per cent. of sugar. The polariscope showed 8.5 per cent. of a dextrorotary substance. The patient was requested to send a twenty-four hour specimen of urine and was instructed how to collect it. On its arrival the amount was 651 c.c. It was slightly cloudy, acid in reaction and had a specific gravity of 10[illegible]. The urine contained the faintest possible trace of albumin, no acetone, no diacetic acid and no indican. Tests for sugar showed a negative reaction with Benedict's solution and Nylander's solution. The polariscope showed 11.25 per cent. of a dextrorotary substance. After inversion by heat and acid, copper was reduced and the polariscope showed 3.9 per cent. of a levorotary substance. Rotating substances other than sugars having been excluded, it was clear that the substance originally present in the urine was sucrose, and that inversion had transformed it into dextrose and levulose, the latter preponderating and causing the levorotation. A catheterized specimen of urine was obtained. This specimen was absolutely free from sugar of any kind, as were subsequent and specimens obtained by catheterization. It was evident then that the patient was not suffering from diabetes mellitus, but that she had purposely added sucrose to the urine in order to simulate this disease. The psychology underlying this deliberate deceit was not perfectly clear. The patient was not hysterical. She was distinctly neurotic, and had been known on one previous occasion to feign illness in order to compass certain aims in connection with her family life. This was probably the explanation of the simulated diabetes, though the family physician could not discover what particular object the patient had in view.

Canadian Medical Association Journal, Toronto

December, 1915, V, No. 12, pp. 104[illegible]-1128

- 45 Medical Profession and War—Cancer Problem. W. H. B. Aikins, Toronto.
- 46 Aids in Diagnosis of Surgical Conditions of Stomach. J. W. Deaver, Boston.
- 47 Antityphoid Inoculation. F. W. Scofield, Ontario.
- 48 Influenza Meningitis. Report of Two Cases. A. Brown, Toronto.
- 49 Case of Cholelithiasis and Chronic Valvular Disease. E. M. von Eberts, Montreal.

Florida Medical Association Journal, Jacksonville

December, 1915, II, No. 6, pp. 161-192

- 50 Supraclavicular Brachial Plexus Block. J. K. Simpson, Jacksonville.
- 51 Surgery of Hemorrhoids. R. Duffy, Tampa.
- 52 Surgical Treatment of Prolapse of Uterus. T. S. Field, Jacksonville.
- 53 Diagnosis of Insanity. H. Crenshaw, Atlanta, Ga.

Iowa State Medical Society Journal, Des Moines

December, 1915, V, No. 12, pp. [illegible]-[illegible]6

- 54 What Is the Matter with Us? J. E. Luckey, Vinton.
- 55 Pelvic Neoplasms in Pregnancy. L. H. Branson, Iowa City.
- 56 Surgical Complications of Typhoid. A. B. Knott, Sioux City.
- 57 Diseases of Eye and Ear as Influenced by General Conditions or Diseases of Other Organs. F. F. Agnew, Independence.
- 58 Degenerative Changes in Uterus. A. P. Donohoe, Davenport.

Journal of Abnormal Psychology, Boston

December-January, X, No. [illegible], pp. [illegible]

- 59 Sex Worship and Symbolism of Primitive Races. (To be concluded.) S. Brown, Boston.
- 60 Psychanalytic Treatment of Hystero-Epilepsy. L. E. Emerson, Boston.
- 61 Genesis and Meaning of Time. M. Solomon, Chicago.

Military Surgeon, Chicago

72 Method of Study of General Diseases in Their Relation to Ocular Structures M M Portis, Chicago
73 Fundus Lesions in Various Forms of Nephritis A E Bulson, Jr, Fort Wayne, Ind
74 Trial Case Accessory J W Downey, Jr, Baltimore
75 Dionin in Treatment of Vernal Catarrh G Swift, Seattle, Wash
76 New Nasal Punch A E Prince, Springfield

Philippine Journal of Science, Manila

September 1915, X, No 5, pp 309 356

77 *Role Played by Insects of Dipterous Family Phoridae in Spread of Bacterial Infections D N Roberg, Manila
78 Beriberi R R Williams and J A Johnston, Manila
79 Pseudotyphoid in Deli Sumatra (Variety of Japanese Kedani Fever) W Schüffner

77 **Rôle Played by Insects in Spread of Bacterial Infections** —*Aphiochcta ferruginca* is a species of fly which breeds in human feces, and is the commonest of the small flies which breed therein Its period of development is from nine to ten days, and eggs are laid when the fly is 5 days old Their minute size enables them to pass through the ordinary fly-proof screens used as prophylactic means against the invasion by the common house fly and other large species of Diptera These flies Roberg says, may serve as agents in the dissemination of Asiatic cholera and other alimentary infections Fly-proof wire-screen bell jars employed in restaurants, kitchens and tiendas to protect food against the common house fly do not exclude the *Phoridae* Fly-proof sanitary pails which are ordinarily used for the deposit of human excrement, although proof against the common house fly, may not be secure against invasion by the *Phoridae*

Public Health Journal, Toronto

December, 1915 VI No 12 pp 593 646

80 Health and Charity S M Gunn
81 Land Problem in Relation to Housing P H Bryce, Ottawa
82 Control of Venereal Diseases W A Evans, Chicago
83 Medical Profession of Ontario vs Irregular Practitioners J W S McCullough, Toronto
84 Defective Children M H Kerr
85 Auxiliary Classes in Public Schools M E Blackwell

Southwest Journal of Medicine and Surgery, El Reno, Okla

December 1915, XXIII, No 12 pp 345 376

86 Psychic and Somatic Palsies Complicating Pregnancy S G Burnett, Kansas City, Mo
87 Moral Effect of Professional Instruction on Proper Sexual Union C S Pettres, Little Rock
88 Nitrous Oxid in Obstetrics J R Worley, Dallas
89 Case of Brain Surgery C L Hall
90 Can Mortality of Tonsillitis be Reduced? T L Higginbotham, Hutchinson, Kan

Surgery, Gynecology and Obstetrics, Chicago

January XXII No 1 pp 1 126

91 Restoration of Bile Passage After Serious Injury to Common or Hepatic Ducts W J Mayo, Rochester, Minn
92 Errors in Anatomic Development, Their Cause and Surgical Significance. C H Mayo, Rochester, Minn
93 Teeth Importance as an Avenue to Infection T B Hartzell and A T Henrici, Minneapolis.
94 *Relation of Amebiasis to Pyorrhea Alveolaris A H Sanford and G B New, Rochester, Minn
95 Deep Seated Alveolar Infections M L Rhein New York
96 Dental Aspect of Relation of Endameba to Pyorrhea Alveolaris W A Price, Cleveland
97 Intestinal Stasis A J Ochsner, Chicago
98 Chronic Intestinal Stasis and Its Associated So Called Toxemia F W Smithies, Chicago
99 Sanitary Organizations and Surgery in France and Central Empires K Connell, New York
100 Unit Plan of Organization of Medical Reserve Corps of U S Army for Service in Base Hospitals G W Crile Cleveland
101 *Radical Operation for Carcinoma of Uterus H C Taylor, New York
102 *Relative Merits of Operations for Cancer of Uterus D C Balfour, Rochester, Minn
103 Heat in Treatment of Carcinoma of Uterus J F Percy, Galesburg
104 *Autotransplantation of Corpus Luteum J B DeLee, Chicago
105 Attempts to Produce Experimentally Conditions of Sympatheticotonus, Vagotonus and Hyperthyroidism A Troell, Stockholm, Sweden
106 *Tracheloplastic Methods and Results. A Sturmdorf, New York
107 Uterine Displacements A J Nyulasy, Perth Western Australia.
108 Abuse of Pituitary Extract G C Mosher, Kansas City, Mo
109 Double Nuchal Displacement of Arms in Footling Presentation, with Breech Anterior Chin Caught Above Symphysis Pubis. G G Copeland, Toronto, Canada
110 *Self Retaining Drainage Tubes A M Vance, Louisville, Ky
111 Zigzag Purse String Suture for Gallbladder Work W H Williams, Lebanon, Ind
112 *Improved Substitute for Iodized Catgut Sutures. C H Watson, Brooklyn

94 **Relation of Amebiasis to Pyorrhea Alveolaris.**—Sanford and New found *Endamcba buccalis* in at least 14 per cent. of mouths free from gingival irritation, and in relatively increasing numbers in accordance with the degree of pyorrhea They claim that clinically there is no parallelism between the presence of *Endamcba buccalis,* the parasite ameba of the mouth, and *Endamcba histolytica,* the cause of amebic dysentery The authors believe that before the alkaloids of ipecac can be accepted as the cure of pyorrhea alveolaris *it must be established that they actually destroy the amebae in the mouth, thus removing the cause of the* disease Experiments convince them that *Endamcba buccalis* and *Endamcba histolytica* are not the same organism They also hold that before *Endamcba buccalis* is called the cause of pyorrhea alveolaris its pathogenicity must be demonstrated by animal experimentation

101 **Radical Operation for Carcinoma of Uterus** —Taylor's treatment of carcinoma of the cervix uteri is as follows For the favorable case, that is, a patient in a good general condition, an abdominal wall without an excess of fat, and no associated pelvic lesion to increase the operative risk, and a limited growth, he advises the radical operation For a limited growth in a patient who is a bad risk on account of general or local conditions he advises usually a simple abdominal hysterectomy, occasionally a vaginal hysterectomy *For the so-called inoperable case, he advises radium, Roentgen rays and the cautery*

102 **Merits of Operations for Cancer of Uterus** —Summary of the present status of operative procedures for cancer of the uterus in the Mayo Clinic as given by Balfour 1 Patients with cancer of the cervix not too far advanced *and who are good surgical risks should be treated by thorough cautery sterilization of the local disease in the cervix,* and total abdominal hysterectomy of the Wertheim type 2 When cancer is confined to the cervix, the vaginal outlet fairly lax, and the patient is a poor surgical risk, namely, obese, with cardiorenal disease, etc, the preferred treatment is the clamp and cautery vaginal hysterectomy 3 In the more advanced stages of the disease if the patient is a good surgical risk the two-stage operation should be done, namely, the Percy method of tissue coagulation by heat, followed after some weeks by total abdominal hysterectomy If the patient is a poor surgical risk the Percy method should be applied, but the abdominal hysterectomy should be considered on its merits in the individual case *In most instances in cancer of the body of the uterus a total abdominal hysterectomy should be done In the small minority of patients with cancer of the body* of the uterus who are poor surgical risks, *clamp* and cautery vaginal hysterectomy may be indicated These observations are based on a review of 634 cases of cancer of the uterus operated on during the past ten years

104 **Autotransplantation of Corpus Luteum** —DeLee reports two cases Both women complained of nausea and vomiting for several days after operation In neither case was the implanted body palpable in the broad ligament at a later operation There was no mass at the site of *implantation*

106 **Tracheloplastic Methods and Results** —*The steps of* the procedure advocated by Sturmdorf are *as follows* 1 Outlining and free mobilization of an ample *circular* flap from the vaginal coat of the cervix. 2. *Complete* excision of the entire cervical mucosa to the *internal os,* with preservation of its peripheral muscular layers *3* Sutural coaptation of the vaginal cuff to the *denuded* cervical cavity The main object in the first step is the *formation* of an ample mobile cuff of vaginal mucosa The edge of vaginal covering thus outlined is freely mobilized by blunt dissection from its underlying tissues, *completely* around the entire cervix, up to the level of the internal os, exposing the circular arteries

as for high amputation The pouting everted cervical mucosa is now circumcised and cored out of its muscular bed as a hollow cone, leaving a raw funnel-shaped cavity Trimming the loose vaginal cuff to serve as an accurate lining to the interior of this muscular funnel, its retention in this position is secured by sutures By tightening each individual set of suture ends, the flap segments are drawn into the cervix, line its whole cavity with vaginal mucosa, the edge of which is thus approximated to the circumference of the internal os, where it is retained in apposition as long as desired

110 **Self-Retaining Drainage Tubes**—Vance's preparation of these tubes is as follows Select a pure rubber tube of the proper size, cut it 2 inches longer than required for the wound or cavity to be drained, and make as many fenestra in the distal portion as desired About 2 inches from the proximal end make two horizontal openings, by snipping with scissors sufficiently wide to accommodate the tongues next to be described With scissors split the proximal end of the tube to within half an inch of the horizontal openings already described and make a tongue tapering slightly from tip to base on each side Insert small hemostatic forceps through the horizontal opening and grasp the tip of the tongue, pulling it downward into the tubal lumen and outward through the opening until the base or wider portion fits snugly into the aperture When both tongues have been thus drawn through the horizontal openings the result will be a tube the lumen of which has not been reduced in the slightest although the rubber is double for a quarter of an inch proximal to the tongues When the tube is inserted into the wound or cavity to be drained, it is so placed that the two tongues forming the arms of the "T" are at right angles to the incision and flat on the external surface of the body These arms are then held in position against the body surface by narrow strips of adhesive plaster, over which the outer dressings are applied

112 **Substitute for Iodized Catgut Sutures**—Watson claims that potassium mercuric iodid, in alcoholic solution in a dilution of one to one thousand, has more than ten times the germicidal efficiency of one to one hundred solution of iodin in alcohol The impregnation of catgut sutures with potassium mercuric iodid by increasing the tensile strength of the gut offers a distinct advantage over the similar use of iodin Catgut sutures impregnated with potassium mercuric iodid when sealed in tubes with chloroform show no deterioration when the tubes are subjected to boiling Since iodized sutures are ruined by such treatment, the superiority of potassium mercuric iodid over iodin as a germicidal impregnating agent is obvious

Tennessee State Medical Association Journal, Nashville

December 1915 VIII No 8 pp 339 382

113 Comparative Study of Diagnostic Tests for Syphilis W Krauss Memphis
114 Morphin Hyoscin Analgesia in Labor Report of Cases J W Brandau Clarksville
115 Medical Organization — County Medical Society J G Rawlins Dancyville
116 Medical Society and Its Officers H P Larimore Chattanooga
117 Ectopic Pregnancy T G Pollard Nashville
118 Dental Sepsis. J Witherspoon Nashville
119 Psoriasis C R Jones Orlinda.
120 Duodenal Ulcer J S B Woolford Chattanooga

Texas State Journal of Medicine, Fort Worth

December 1915 XI No 8 pp 413-460

121 Neurologic Cases in Practice of Ophthalmology and Otology J C Beck Chicago
122 Origin of Certain Neuroses R. H Gough Fort Worth
123 Recognition of Early Symptoms of Nervous Diseases in Life Insurance Work J S Turner Dallas
124 Plea for More Thorough Examination of Patients Suffering from Symptoms of Early Pulmonary Tuberculosis S E Thompson Carlsbad
125 Suspension Laryngoscope (Killian) Its Aid in Treatment of Tuberculous and Syphilitic Lesions of Larynx S Israel Houston
126 Case of Pneumonia Complicated by Meningitis A D Patillo Electra
127 Ectopic Gestation Report of Cases T E Gilcreest Gainesville
128 Stricture of Rectum C S Venable San Antonio
129 Injuries of Back from Medicolegal Standpoint H D King New Orleans

United States Naval Medical Bulletin, Washington, D C

January X No 1 pp 1 189

130 *Technic for Absorption Test for Syphilis Using Human Complement. C S Butler and W F Landon U S Navy
131 Early Diagnosis of Tuberculosis as it Relates to Service and to Naval Hospital at Las Animas Colo G H Barber, U S Navy
132 Studies Pertaining to Light on Shipboard T W Richards, U S Navy
133 Military Organization and Equipment in Present War A M Fauntleroy
134 Classification of Mental Diseases R Sheehan U S Navy
135 Second Report on Schier Test for Mentality with Special Reference to Point System G E Thomas U S Navy
136 Treatment of Fractured Mandibles F L Morey U S Navy
137 Diving Operations in Connection with Salvage of U S Ship F-4 ' G R W French U S Navy
138 Report on Recovery Identification and Disposition of Remains of Crew on F-4 ' W Seaman U S Navy
139 Simple Test of Sterilizer Efficiency E Thompson U S Navy
140 Horizontal Fluoroscope and Illuminating Box Made in Naval Hospital H L. Gall U S Navy
141 Creeping Eruption Report of Case J C Parham, U S Navy
142 Sporadic Case of Typhus R G Davis U S Navy
143 Branchiogenic Cyst L W Johnson U S Navy
144 Bilateral Thrombosis of Central Retinal Veins S Walker Jr U S Navy
145 Internal Hernia Report of Case W C Espach U S Navy
146 Case of Psoriasis Limited Almost Exclusively to Scalp J H Harris U S Navy
147 Handy Electrical Appliance for Sick Baby A Farenholt U S Navy

130 **Test for Syphilis**—Butler and Landon describe a test which is in part like that of Noguchi and in part like that of Emery and in which human complement instead of that of the guinea-pig is employed, quite as satisfactory as either the straight Wassermann or the Noguchi tests As between the Noguchi and the present technic the results were in agreement in 292 cases out of 300 There were eight discrepancies and of these, three were in the serums of men undergoing treatment, and in the fading reaction one or the other test would persist as positive longer than the alternate one There is nothing new in this test Emery used patient's serum for complement but whereas he allowed each patient's serum to complement his (the patient's) own particular reaction this test uses the serum of a known negative reacting human being for all the tests Amboceptor paper (antihuman rabbit) antigen and other points of the test are as in Noguchi's technic, but with reduced amounts

West Virginia Medical Journal, Wheeling

December 1915 X No 6 pp 181 216

148 Cancer Problem A Arkin Morgantown
149 Stone in Kidney and Ureter S S Gale Roanoke Va.
150 Report on Sanitation. C Wingerter Wheeling
151 New Public Health Law W W Golden Elkins
152 Uterine Prolapse. I Hardy Morgantown

Wisconsin Medical Journal, Milwaukee

December 1915 XIV No 7 pp 261 302

153 Workmen s Compensation Act of Wisconsin from Viewpoint of Insurance Companies. A B Rosenberry Wausau
154 Relation of Physician to Compensation C H Crownhart Madison
155 Traumatic Hernia and Traumatic Orchitis in Relation to Workmen s Compensation A H Levings Milwaukee
156 Borderline Cases Under Workman s Compensation Act. E Quick Milwaukee
157 Unusual Case of Lateral Sinus Thrombosis G F Zaun Milwaukee
158 Juvenile Hyperthyroidism A L Kastner Milwaukee.

FOREIGN

Titles marked with an asterisk (*) are abstracted below Single case reports and trials of new drugs are usually omitted

British Medical Journal, London

Dec 25 1915 II No 2869 pp 913 948

1 Wounds in War A Bowlby
2 *Iodin and Sodium Hypochlorite as Wound Disinfectants H Schutze
3 Quinin Hydrochlorid Dressing for Infected Wounds K Taylor
4 Cases of Traumatic and Arteriovenous Aneurysm F L A Greaves
5 Arteriovenous Aneurysm Anastomosis of Vein and Suture of Artery H J Godwin
6 Character and Treatment of Frost Bite H E Munroe

2 **Iodin and Sodium Hypochlorite as Disinfectants**—The organisms used by Schütze in his experiments were *Staphylococcus aureus* and *B oedematis maligni* as examples of the

sporing and nonsporing groups, and, as a test of the efficiency of the disinfectant in the presence of organic matter, in one series disinfection was carried out on bacteria suspended in distilled water, in another series on bacteria suspended in sheep serum The following tables show the results of this work

Disinfectant	Environment	14 5 Million Staphylococci per c c at 22 C	
		Are Not All Killed After	Are All Killed After
0 0015 per cent iodin	Distilled water		2 minutes
0 125 per cent iodin	50 per cent serum	16 minutes	32 minutes
1 0 per cent phenol	Distilled water	16 minutes	33 minutes
1 0 per cent phenol	50 per cent serum	32 minutes	
1 5 per cent phenol	50 per cent serum	3 minutes	16 minutes
1 75 per cent phenol	50 per cent serum	4 minutes	8 minutes

Disinfectant	Environment	102 Million Malignant Edema Spores at 19 C	
	—	Are Not All Killed After	Are All Killed After
Dakin's solution, diluted one half, containing 0 1685 per cent NaClO	Distilled water		¼ hour
Id	50 per cent serum	5¼ hours	
5 per cent iodin	Distilled water	1½ hours	2 hours
5 per cent iodin	50 per cent serum	2 hours	3¼ hours
10 per cent iodin	Distilled water	¾ hour	1 hour
5 per cent phenol	*Distilled water*	8 days	

3 **Quinin Hydrochlorid Solution as Dressing**—The majority of the cases reported on by Taylor were subjected to wet dressings of a 1 per cent solution of quinin hydrochlorid in cold boiled water The same solution has been used for instillation In about twelve cases a continuous drip of 1/10 per cent solution of quinin hydrochlorid, with the addition of 1/10 per cent of hydrochloric acid or of 1 per cent of alcohol, has been used In addition to these procedures, a few patients received hypodermic injections into the tissues about the wounds of the same solution as that used for wet dressings About 125 cases of infection were treated with one of these solutions These cases have been for the greater part fairly fresh wounds, having usually been received within forty-eight hours of injury Most of them (70 per cent) have been heavily infected with the gas bacillus, and all with staphylococci, streptococci, and the usual flora or putrefactive bacteria About one half had open fractures of long bones of arm or leg Most of the wounds treated with quinin solution have run a favorable course There has been a rapid improvement in the appearance of the wound itself, manifested by the speedy disappearance of the sloughs, by the vanishing of the putrefaction odor (frequently within twenty-four or forty-eight hours), by a marked decrease in the discharge, and by the unusually rapid appearance of red vascular granulations Nearly all of the most serious wounds show heavy mixed infections Ten patients were treated with dressings other than quinin, the treatment was continued for a number of days and then changed to the quinin solution All of them showed sudden improvement associated with the change In three instances there was an almost immediate drop in temperature coincident with a marked improvement in the appearance of the wound

Journal of Tropical Medicine and Hygiene, London

Dec 15, 1915, XVIII, No 24, pp 277 288

7 Herpetomonads and Vertebrates H B Fantham
8 Fever Due to Bacterium *Columbense* (Castellani 1905) E C Spaar

Lancet, London

Dec 25, 1915, II No 4817, pp 1385 1436

9 Wounds in War A Bowlby
10 Functional Nerve Disease and Shock of Battle D Forsyth
11 Another Human Coccidium from Mediterranean War Area C M Wenyon
12 Bactericidal Effect Exerted in Vitro by Ethylhydrocuprein (Optochin) Hydrochlorid on Fecal *Streptococcus Obtained from* Wounds A C Inman

Bulletin de l'Académie de Médecine, Paris

Dec 14, 1915, LXXIV, No 50, pp 707 768

13 *Prizes Offered for 1916, 1917 and 1918 R Blanchard, Secretary

December 7, No 49, pp 663 706

14 *Tetanus Localized in Leg E Laval and Pozzi
15 Circulars for Prevention of Avoidable Diseases (*Sur la distribution,* dans l'armee, de notices relatives à la prophylaxie des maladies evitables) Letulle and others
16 Importance of Milne's Method of Prophylaxis of Scarlet Fever (Sur la prophylaxie de la scarlatine) Chantemesse
17 Fiftieth Anniversary of Villemin's Announcement of the Specific and Contagious Virulence of Tuberculosis (Le cinquantenaire, à l'Academie de Médecine de la demonstration experimentale de A Villemin, sur la virulence specifique et contagieuse de la tuberculose) L Landouzy
18 Tardy Abscess of the Brain from Projectile, Recovery after Operation M Mendelsson
19 Necropsy Shows Evidence of Regeneration *of* Spinal Nerve Fibers after Crushing of Spinal Cord G Roussy and J Lhermitte
20 *Mild and Unrecognized Forms of Malaria (Les formes legères et meconnues du paludisme) P Sainton
21 Iodized Vaccines against Typhoid and Paratyphoid (L'immunite specifique et l'immunite de groupe obtenue contre les bacilles typhiques et paratyphiques A et B par les vaccins iodes) A. Ranque and C Senez

13 **Prizes Offered by the Académie de Médecine**—The list of prizes offered during the next three years totals over 130, and all but seven are open to international competition The competing articles for thirteen of the prizes must be sent in anonymously, the name in a sealed envelope For five of the prizes only printed works can compete Full details are given in the *Bulletin* The prizes range from $60, $600, $1,060 and $2,100 up to the Audiffred prize representing an endowment yielding an income of $4,800 at 3 per cent., the whole endowment to be given for a sovereign cure for tuberculosis

14 **Localized Tetanus**—This subject was discussed in the Paris Letter, Jan 15, 1916, p 204

20 **Malaria in Paris Troops**—The five men were from the Paris district and had never been in the tropics, but for some months had been on active trench service in the marshes of Flanders The discovery of the malaria plasmodium in the blood explained the puzzling syrdrome in these and in a number of other cases at the front (See also Paris Letter, p 290)

Paris Médical

Dec 4 1915 V, No 30, pp 525 540

22 Pensions for the Wounded and the Cripples Left by the War (Les pensions aux blessés et aux invalides de la guerre) Chavigny
23 Goggles to Ward Off Minor Wounds of the Eyes (Prophylaxie des blessures du globe oculaire) F Terrien and G Cousin
24 *The Bottle Spiroscope for Exercising the Respiratory Apparatus (L'entrainement respiratoire par la methode *spiroscopique, ses* applications aux malades et aux blesses) J Pescher

24 **Spiroscope for Respiration Exercises**—Pescher's spiroscope is based on the principle that a bottle of water turned upside down in a pail of water will not empty itself even if the cork is removed He uses a graduated bottle and has the patient blow into it through a tube low down in the bottle The patient can see the bubbles as his breath enters the bottle, and can gage his respiratory capacity by the amount of water he is able to displace in a given time The patient gets interested in the task as he watches the bubbles of his breath, and surprising benefit is realized in old cases of emphysema, bronchitis, etc, after wounds of the chest, and in hastening recovery from acute affections of the air passages

Presse Médicale, Paris

Dec 13, 1915 XXIII No 61 pp 497 504

25 Surgery in France during the *Last* Fifty Years (La chirurgie française dans les cinquante dernières annees) J L Faure

December 16, No 62 pp 505 512

26 Clinical Diagnosis of Exaggeration and Perseveration of Functional Nervous Troubles P Sollier
27 *Prophylaxis of Traumatic Talipes Equinus (Pieds bots equins traumatiques precoces) P *Hardouin*

December 23 No 65 pp 515 520

28 Progress of Obstetrics in France during the Last Fifty Years (La médecine française en ces cinquante dernières annees VI Obstétrique.) C Jeannin

27 **Prophylaxis of Traumatic Talipes Equinus**—Hardouin has encountered a number of cases in which, after a bullet had passed through the calf, the disturbances were so slight that the men were soon on their feet The traction on the wound, however, caused pain, and in order to prevent this the foot was held in an abnormal position—actual talipes equinus, and as these men were known to be mildly wounded they did not get the medical supervision of the other wounded But the deformed attitude of the foot soon became permanent, and they were left cripples unless the deformity was noticed and corrected in time If they were allowed to use crutches, permanent crippling was almost inevitable Men with wounds in the legs should not be allowed to be on their feet until the wound is entirely healed Disregard of this principle makes the healing drag for weeks longer than it should When they are allowed to walk, the position of the foot should be kept normal, and it should be exercised only a very little at first. Massage is seldom useful, but a plaster cast may be needed in grave cases

Correspondenz-Blatt für Schweizer Aerzte, Basel

Nov 20 1915 XLV No 47, pp 1473 1504

29 *Renal Hematuria from Overexertion (Nierenbluting durch Ueber anstrengung) L. Lifschitz
30 Advantages of Outdoor Reclining in Mountain Climate (Liege kuren im Hochgebirge.) O Amrein

November 27 No 48 pp 1505 1536

31 *Improved Outlook for Treatment of Hemophilia Purpura etc (Ueber vergleichende Blutplattchenuntersuchungen) A Fonio
32 Postoperative and Other Reflex Anurias (Klinische Beitrage zur Kenntniss der Anurie.) M Grechen

December 4 No 49 pp 1537 1568

33 Modern Treatment of Fractures. A Ziegler
34 *Pulmonary Tuberculosis among the Jews (Ueber das Verhalten der Lungentuberkulose bei den Juden) S Kreinermann
35 *Comparative Study of the Blood Platelets (Ueber vergleichende Blutplattchenuntersuchungen) A Fonio

December 11 No 50 pp 1569 1600

36 *Rachitic Muscle Disease. (Myopathia rachitica) E Baumann
37 *The Cycle of the Uterus Mucosa (Le cycle de la muqueuse uterine.) D Christides and P Besse
38 *Hematuria from Physical Overexertion (Ueber Nierenblutungen durch Ueberanstrengung) Wildbolz.

December 18 No 51 pp 1601 1632

39 Abdominal Pain in Soldiers as Manifestation of Irritation of the Dorsal and Lumbar Spinal Cord (Ueber Abdominalschmerzen) A Jaquet
40 *Study of the Coagulation of the Blood (Zur Methodik gerinnungs physiologischer Studien) R. Klinger

29 **Hematuria from Overexertion**—Lifschitz has found only one case on record in which hematuria was brought on by long standing or walking, but he has encountered recently two such cases in his own experience Hematuria following competitive athletics is more common Von Leyden first reported a case of hemorrhage from the bladder with great malaise and dysuria in a young man after a hard ride on horseback All symptoms had disappeared by the end of two weeks and there has never been any further trouble from the kidneys Lifschitz cites the details of ten other similar cases from the literature the hemorrhage being more or less acute, but all terminating in complete recovery His own two patients were a teacher of 40 and a medical student and he himself presented a third case, the hematuria coming on each time after long walking or standing on military service This makes a total of fourteen cases of hemorrhage after physical stress with apparently sound kidneys in healthy men The hemorrhage occurs without any warning signs, and may be brief or it may keep up for several days Recurrence is known in only two cases but Fürbringer has reported a case in which the hematuria recurred after every long ride The hemorrhage was never enough to induce anemia and there was no pain or malaise as a rule Lifschitz thinks that the products of metabolism accumulated during the physical exertion force their way through the kidneys and induce the hematuria, although the kidneys may be entirely sound Renal hematuria may be induced by the toxic action of drugs, but he thinks that in his cases it was evidently from the toxic action of fatigue poisons

31 **Individualizing and Effectual Treatment of Disease of the Blood**—Fonio remarks that the prevailing methods of testing the coagulating property of the blood give no information as to the causes of the delay in coagulating He describes a method which reveals the exact factors involved, and apparently opens up a wide field for future research on the blood Although the technic is still imperfect, yet it already throws light on the nature of hemophilia, purpura, etc, and suggests effectual treatment He calls it the *separierende Methode* as it aims to determine which of the elements of the blood is lacking in the individual case It opens a brighter prospect for transfusion of blood in diseases of the blood, as it enables us to select and apply in transfusion the one or more elements needed, leaving out the other elements which are merely undesirable ballast

We know that coagulation is the result of the release of thrombozym by the destruction of the blood platelets It combines with the thrombogen to form thrombin, while the latter—in the presence of calcium salts—acts on the fibrinogen and from this action fibrin results If any one of these four factors is lacking—either blood platelets (thrombozym) thrombogen, fibrinogen or lime—coagulation is retarded Hence it is important to isolate and examine each of these elements separately This he accomplishes approximately by the use of hemophilic or other similarly slowly coagulating blood as an index, applying the blood to be tested to this index blood, and noting the effect on it. He records the coagulation time in three phases represented by a dotted line, a heavy black line and another dotted line The first represents the time that elapses before there is a trace of coagulation, the heavy black line the period from the first traces to complete coagulation The second dotted line represents the period of retraction of the clot By this graphic method comparative study of each case is facilitated, as he shows by a number of examples, the relative lengths of the lines showing which of the four elements isolated is *most at fault* He recalls that it is a simple matter to isolate the blood platelets Two drops of a suspension of the platelets from patients with purpura or exophthalmic goiter or healthy controls were added to six drops of blood from a hemophiliac The length of the various lines in each test shows at a glance that purpura platelets behaved like normal platelets Equal amounts of each in separate tests compel the hemophilic blood to coagulate within normal range His further tests apparently demonstrated that hemophilic blood contains normal proportions of platelets but that they are qualitatively insufficient In purpura, on the other hand, the platelets are qualitatively normal but are present in insufficient numbers Six tables and two heavy-line diagrams show the findings in his research When the blood is *deficient in thrombozym*, it can be brought up to normal by injection of blood platelets (Fonio s 'coagulen) without injecting unneeded elements along with them as in transfusion of the whole blood He can already report the cure *in this* way of two newborn with melena, the arrest of hemophilic hemorrhages, and a favorable influence on hemorrhagic diatheses *It has to be* given on the same principles as organotherapy for permanent benefit (A Fonio is the physician-in-chief of the Langnau district hospital, and he is also connected with the university surgical clinic at Bern in charge of Prof T Kocher)

34 **Pulmonary Tuberculosis Among Jews**—Kreinermann cites data from various countries which demonstrate two facts that apparently contradict each other namely, (1) *that* the Jews more than other peoples, present a physical predisposition to pulmonary disease, their sedentary mode of life and overcrowded homes also invite it, but (2) *they show* everywhere a considerably lower morbidity and mortality from pulmonary tuberculosis than are found in the rest of the population He cites series of convincing *statistics in* this line A number of factors cooperate in this, among them as he explains the absence of abuse of alcohol. Many prominent clinicians say they have never encountered a case of

delirium tremens in a Jew But the most influential factor is probably an acquired immunity For sixty generations the Jews have lived in crowded quarters in cities and, he says, they paid the penalty of their urbanization centuries ago Pulmonary tuberculosis raged rife among them then and swept off the frail, leaving the sturdy and resistant, and the immunity thus acquired is sustaining them in our generation Another factor may be their ritual frequent washing of hands and cleaning up of the premises before the Sabbath Last but not least, is the high estimation placed on the services of the physician To visit the sick and seek to help each individual case in every way is part of their religion, and thanks to this the sick obtain medical attendance at an earlier stage than is common elsewhere Consequently tuberculosis is recognized in its incipiency and gets a better chance to be stamped out

35 **The Blood Platelets and Renal Hematuria After Overexertion**—Fonio replies to the article by Lifschitz sum*marized in abstract 29 above Fonio thinks that the* cases of hematuria reported by the latter must be regarded as instances of latent purpura The kidneys being normal, the source for the hemorrhage must be sought elsewhere, and most probably it was an insufficiency on the part of one of the four elements which participate in the coagulation process This insufficiency remains latent until it is revealed during some period of extra physical exertion with its excessive production of waste and fatigue toxins, and the consequent overloading of the circulation with them He urges examination of the blood and especially of the behavior of the blood platelets and coagulation time as a routine procedure in all cases of hematuria from sound kidneys We know that intestinal hemorrhage is liable to occur in leukemic conditions and in the jaundice of the newly born, and that profuse, recurring uterine hemorrhage may also be due to certain constitutional affections—all of which might be elucidated and possibly successfully treated by detection and the remedying of the deficiency in some element of the coagulation process Fonio's study of this subject is summarized in abstract 31 above He cites here in conclusion a case of epidemic meningitis in which hematuria followed lumbar puncture each time during a certain stage of the disease

36 **Rachitic Disease of the Muscles**—Baumann reviews the recent literature on this subject and on the differential diagnosis, and reports in detail a case from his own practice in a 2 months' babe The acute onset of the muscle trouble and the febrile course in the first few weeks suggested acute polymyositis at first There was profuse sweating, particularly of the head, but appetite and stools were normal and there was no vomiting The child's arms hung loose as if paralyzed, but it could move its fingers The epiphysis in both forearms was unduly thick and a bunch was felt on the bone 3 cm above the left elbow which roentgenoscopy showed to be a rachitic, lime-free osteoid bunch The child screamed when the arms were grasped, but did not mind mere contact The tendon reflexes were normal or exaggerated The electric excitability of the muscles involved was considerably reduced, but there was always lightninglike twitching, and no reaction of degeneration

Improvement was soon manifest under phosphorus (0 01 part phosphorus to 100 parts emulsion), one teaspoonful fractioned during the day The feedings were restricted to milk with two parts thin rice gruel, to a total of 170 gm a day The child had been given flour gruel, but this was stopped In less than a week the wrist could be moved and by another week one arm was functioning normally By the end of the month the child had regained the use of its arms and the bunch in the arm had retrogressed The phosphorus was kept up for a few weeks longer, half a teaspoonful of the emulsion, three times a day Then for two weeks it was suspended, and the twelfth day thereafter the left arm hung loose again—evidently a tendency to relapse after the phosphorus had been eliminated It was resumed again, and the benefit was apparent the sixth day He adds that the emulsion of phosphorus is borne better by very young children than when combined with cod liver oil

37 **The Uterine Cycle**—*Christides* and Besse examined scraps taken from the uterus mucosa twice each week during four or five weeks, the scraps taken each time from a different place but all examined by the same staining and microscopic technic He urges others to conduct research along similar lines for comparison, as one case is not conclusive

38 **Renal Hematuria from Overexertion**—See abstract 35 above Wildbolz also takes exception to Lifschitz' statements in regard to "hematuria from sound kidneys," saying that not until the kidney has been examined in sections from end to end under the microscope is one justified in assuming that it is "sound" when it is the seat of hematuria Closer investigation or the course of the case perhaps years later, will reveal some focus responsible for the hemorrhage in nearly every instance, although there are five cases on record in which no focus could be found (Klemperer, Schede, Steinthal, Casper and Schupbach's case from Wildbolz' service) As a rule, hematuria is the consequence of some serious organic trouble, the prognosis of which grows progressively graver the longer the organic trouble escapes detection One should therefore never assume that the kidney is sound when confronted with hematuria until after absolute exclusion of organic disease

40 **The Coagulation Process**—Klinger writes from Zurich that the blood platelets are not always at fault in hemophilia and similar abnormal conditions of the blood The trouble lies in the thrombogen This acts only in the presence of lime salts, and thrombozym is also necessary, the three combining to form thrombin This with fibrinogen produces the fibrin *Pure, stable solutions of fibrinogen are the best means* to study the coagulation process

Deutsche medizinische Wochenschrift, Berlin

Dec 9 1915, XLI, No 50, pp 1477 1504

41 Roentgen Localization of Metal Foreign Bodies in the Tissues (Zur Projektildiagnose) Albers Schönberg
42 *Present Status of Military Surgery (Ergebnisse der bisherigen kriegschirurgischen Erfahrungen) H Matti (Bern) Commenced in No 48
43 *Typhoid and Circulatory Disturbances during Convalescence (Typhus und Zirkulationsapparat) F M Groedel
44 Isolated Dislocation and Fracture of the Astragalus after Grenade Contusion A Harf
45 **Treatment of Fracture in Young Infants (Zur Behandlung der* Säuglingsfrakturen) E Buchheim
46 Intravenous Salicylic Medication (Behandlung rheumatischer Erkrankungen mit intravenösen Salizyleinspritzungen) Rubens
47 Lime Salts to Hasten Recovery from Frost Bite (Kalksalze gegen Erfrierung) J Bamberger
48 Enlightenment and Advice for Patient on Discharge from Sanatorium (Welche Aufgaben ergeben sich fur den Heilstattenarzt aus der Fürsorge fur seine Patienten auch nach ihrer Entlassung aus der Anstalt?) Klare.

42 **War Surgery to Date**—Matti concludes this long review of his impressions to date with the statements that physical or mechanical antisepsis is the main thing for wounds in war, but that chemical antisepsis, cautiously applied, is almost indispensable, at least at first Exposure to the sun and air of profusely secreting wounds is being adopted more and more, and its superiority is now established beyond question Phlegmonous conditions do excellently under compresses dipped in a warm 1 per thousand solution of salicylic acid, changed every half hour or hour Large granulating surfaces do better when the method of treatment is changed often The tissues become accustomed to a given treatment and it loses all stimulating power

43 **The Cardiovascular Apparatus in Typhoid**—Groedel remarks that during the febrile phase of typhoid the pulse seldom is as rapid as in other infectious diseases or as might be expected from the height of the fever At the height of the disease there may be signs of weakness on the part of the heart, but as a rule they subside without leaving any functional or anatomic disturbance At the same time, mild prophylactic doses of digitalis may be called for in some cases of typhoid During the first two weeks after defervescence, bradycardia is frequent, as also thrombosis, but from the third week of convalescence onward the pulse and heart action frequently suggest actual myocarditis The pulse

becomes soft and small and the beat varies The blood pressure also fluctuates within a wide range and the auscultation findings are variable He measured the outline of the heart with orthodiagraphy in several hundreds of cases but found the heart much enlarged in only one instance, there was slight enlargement in 2 or 3 per cent , 10 per cent were within the normal range Nothing was found to indicate injury of the heart muscle, and yet a loud systolic murmur was common, usually accompanied by tachycardia and somewhat higher blood pressure These were noted in nurses as well as in the soldiers, which excludes poisoning from tobacco or liquor as a probable cause He noticed further that the men who showed bradycardia soon after defervescence were the ones who developed the tachycardia later

All this evidence points to some disturbance in the internal secretions, especially in the pancreas, suprarenal and thyroid At Curschmann's clinic, among seventy-three cases of acute thyroiditis, forty were consecutive to typhoid Groedel has been treating, on this assumption, his patients with post-typhoid circulatory disturbances, and has been gratified with the results He gives no details as to his technic

45 **Treatment of Fractured Femur or Humerus in Infants** —The difficulties in the way of immobilization and extension for fractures in young infants are obvious especially the lack of any point of support in the soft little body Buchheim has obviated these difficulties by fastening the child in a plaster bed and having a wire frame embedded in the plaster The wire frame projects far enough to serve as a support for traction when extension is applied to the limb He gives illustrations of two cases, in one the extension was applied to the upper arm for a birth fracture, and in the other for correction of a fracture of the femur that had healed leaving deformity that had required osteotomy The child can be handled and carried around in its plaster bed

Münchener medizinische Wochenschrift, Munich

Dec 14 1915 LXII No 50 pp 1709 1744

49 Fitness for Service and Right to Pension of Soldiers with Nervous Affections. (Dienstfahigkeit und Rentenfrage bei nervenkranken Soldaten) P Jolly
50 Roentgen Localization of Foreign Bodies in Eye and Orbit. (Zur Lokalisation von Fremdkorpern in Auge und Orbita.) Salzer
51 *Cure of Syphilitic Polyneuritis under Neosalvarsan. (Beitrag zur Neosalvarsantherapie) W Powiton
52 Circulars Distributed to the Subordinate Medical Officers in the Field (Merkblatter für Feldunterarzte) E Rotter (Moderne Wundbehandlung und chirurgische Assistenz.) Gebele (Beginnende Behandlung psychischer Erkrankungen im Felde) Gudden
53 *Orthopedics and the Field Hospital C Deutschlander
54 Experiences with After Treatment of Wounded (Erfahrung uber die Nachbehandlung von Verwundeten und Unfallverletzten.) Rumpf
55 The Diagnosis and Record of Wounds in War (Diagnosenstellung bei Kriegsverletzungen) Lorcher
56 *Direct Intracardial Injection in Shock from Wounds Three Cases (Unmittelbare Einspritzung in das Herz bei hochgradiger Lebensgefahr) Szubinski
57 Care of the Stump (Stumpfrettung unserer Amputierten) H Hans
58 The First Dressing for Compound Fracture of Upper Arm or Thigh (Der erste Verband bei hochsitzenden offenen Oberarm und Oberschenkelbruchen) Brix
59 Apparatus for Loosening Up Stiff Fingers. (Bewegungsapparat fur aktive und passive Spreizung und Annaherung der Finger) Moser
60 Night Blindness in the Troops Possibly Result of Deficiency in Vitamins. (Avitaminose als Ursache der Nachtblindheit im Felde) Wietfeldt.

51 **Syphilitic Polyneuritis Subsides Under Neosalvarsan** — The primary lesion of the syphilis healed under prompt mercurial inunctions but the syphilitic toxins evidently remained in the organism and induced a neuritis It gradually developed into polyneuritis and treatment with mercury succinimid only seemed to aggravate the neuritis The young man noticed that he felt weaker after each injection The known syphilis the paralysis without sphincter disturbances the prickling sensations at first the atrophy and tenderness of the muscles the abolished reflexes and the tendency to the reaction of degeneration—all suggested neuritis The Wassermann reaction was negative but treatment was begun with neosalvarsan Three intravenous injections were given at eight-day intervals, 0 15 0.3 and 0 5 gm , the latter dose was repeated after an interval of fourteen days He was thus given four injections, supplemented by mild electrotherapy and exercising the muscles In eight weeks, from absolute helplessness, total paralysis of arms, hands and legs, the young man had regained complete control of his limbs and some of the reflexes had returned.

53 **Orthopedics and the Field Hospital** —Deutschländer emphasizes that the orthopedic standpoint must be taken from the very first in management of wounds, that is, to aim to reduce the crippling to the minimum The functioning of artificial limbs depends on the stump and he gives directions for adapting this to the purpose He also recapitulates the rules for applying plaster casts so as not to interfere with later functioning He shows also methods for exercising joints, calling attention in particular to wagon wheels mounted on the walls at the proper height for the joint They can be used for both active, passive and against resistance exercises, graduating the radius

56 **Direct Intracardiac Injections** —Szubinski was unable to save the patients in three cases reported but this experience and research on the cadaver have convinced him that it might prove useful in some cases He refers to the condition of shock in which stimulants injected subcutaneously and intravenously show no action, although neither the severity of the wound nor the loss of blood is enough to explain the serious condition He has had a number of men die under such conditions, and as a last resort he injected directly into the heart muscle 2 c c of a preparation of digitalis with ten drops of the usual epinephrin solution There was marked improvement for a few minutes but this subsided Necropsy revealed fat embolism in the lungs and extreme anemia of all the organs A second patient in a hopeless condition from an extensive abdominal wound improved materially under three intracardiac injections of 10 c c of the digitalis preparation and epinephrin The heart action kept comparatively good for ten hours before death finally ensued The third patient had been wounded in the head and conditions were growing worse, respiration slower and slower An intracardiac injection of 35 c c of a mixture of a preparation of strophanthus and epinephrin rendered the pulse at once strong and nearly normal In none of the cases could the puncture hole in the heart be found at necropsy In each instance the flagging heart was roused to vigorous work.

Wiener klinische Wochenschrift, Vienna

Dec 2 1915 XXVIII No 48 pp 1309 1336

61 Bacteriology of Inflammation of the Gallbladder (Zur Bakteriologie der Gallenblasenentzundungen.) L Feldmann
62 *Positive Typhoid Bacilli Cultures and Agglutination in a Case of Miliary Tuberculosis. M Blassberg
63 *Recovery in Apparently Hopeless Case of Epidemic Meningitis after Subcutaneous Injection of Patient s Own Spinal Fluid. (Zur Behandlung der Genickstarre) L Stefanowicz
64 Fatal Gas Embolism with Gaseous Phlegmon H H Schmid
65 Meningococcus Sepsis. V Svestka
66 Traumatic Chylothorax F Derganz.
67 The Bacteriologic Laboratory Train (Das bakteriologische Eisenbahnlaboratorium der osterreichischen Gesellschaft vom Roten Kreuz.) L. Arzt.

62 **Typhoid Bacilli Found in Miliary Tuberculosis** —Blassberg has obtained positive bacteriologic findings typical of typhoid in so many cases of tuberculosis that he thinks the latter must modify the soil to render it more favorable for typhoid bacilli He describes in detail a typical case with the necropsy findings There was absolutely nothing to suggest typhoid otherwise. He draws the important practical conclusion that typhoid carriers should be examined for possible latent tuberculosis

63 **Autoserotherapy of Epidemic Meningitis** —The robust girl of 16 showed only transient benefit from antimeningococcus serum and the picture of inflammatory internal hydrocephalus developed with a constantly progressive course. As a last resort the fluid obtained by lumbar puncture was exposed in a thin layer to the sunlight for three hours Two hours exposure is known to kill the meningococcus Ten c.c. of the fluid were then injected subcutaneously on each side of the spine along with an intraspinal injection of the antimeningococcus serum. Improvement was soon manifest and

recovery was complete by the third week Stefanowicz does not know of any case on record in which this autoserotherapy has been applied in meningitis He adds that it might be possible to inject the fluid without the exposure to kill the meningococci They are liable to induce gonitis and endocarditis—cases of such are on record—but the autoserotherapy would tend to cure them

Gazzetta degli Ospedali e delle Cliniche, Milan

Dec 2, 1915 XXVI, No 85, pp 1329 1344

68 Case of Inguinal Hernia and Femoral Hernia in Single Sac G Giusti

December 5, No 86, pp 1345 1360

69 Submammary Incision in Purulent Mastitis (Il taglio sottomammario nelle mastiti purulente) N Latronico

December 10, No 88, pp 1377 1392

70 *Tendency to Hysteria in Older Children (L'isterismo degli adolescenti) P Ercolani

70 **Hysteria in Older Children**—Ercolani bases the diagnosis on the heredity, the child's character, education and emotions, but mostly on the hemi-anesthesia, the hysterogenous zones and the effect of drugs or other agents Epileptic seizures are favorably modified by bromids, while these have no effect on the hysteric The prognosis is very favorable with the latter if it is treated promptly and properly with general hygiene, removal from a predisposing environment, country air and avoidance of excesses of all kinds and especially onanism The convulsion may be treated by compression of the hysterogenous points, inhalation of anesthetics and chloral given internally, but the sovereign prophylactic measure is absolute isolation He lists the hysterogenous zones in children as the bregma, the sternum, the intercostal spaces near the sternum, nearest the scapula or beneath the outer end of the clavicle in the vicinity of the breast, the spinous apophyses of the various sections of the spine, the central portion of the flanks, the inguinal region, the testicle, the prepuce and certain points in the joints He relates that pressure at these points induces phenomena characteristic of hysteria, and may bring on a hysteric convulsion, while pressure on these hysterogenous points may also arrest the spasm

Pediatria, Naples

November, 1915, XXIII No 11, pp 753 816

71 *Meningococcus Meningitis in Infants, and Serotherapy R Jemma
72 Transient Fever in the Newly Born (La febbre transitoria dei neonati) S Lo Cicero

71 **Meningitis in Infants**—Jemma analyzes his experience with meningitis in six young infants, all recovering completely under intraspinal serotherapy, the dosage large and repeated The outcome in one case is not known as the parents took the infant away before the disease had run its course He declares that the serotherapy is effectual at whatever date it is instituted One of the children did not get its first dose until the forty-seventh day of the meningitis, but it recovered as promptly then as the others All came from different districts and no other cases of meningitis were known there When serotherapy proves ineffectual in meningitis, it is either because the doses have been too small or the serum is old and has lost its antitoxic and bacteriotropic property, or because the meningitis is the work of a parameningococcus In differential diagnosis he lays great stress on the tension in the anterior fontanel and the contracture of the muscles of the spine Netter has described a paralytic form, the muscles of the back of the neck abnormally relaxed Lumbar puncture is the only certain means of differentiation, and it is the more important as it is at the same time a therapeutic measure Called in consultation in another case of apparent meningitis, the absence of the knee-jerks testified against meningitis The family objected to lumbar puncture being done Within a few days the meningitic symptoms had subsided, giving way to the classic picture of acute anterior poliomyelitis The physician must bear in mind that with meningitis the spinal fluid may be found limpid and apparently normal if examined within forty-eight hours of the onset In the cases reported, the ages of the children ranged from 6 months to 5 years They were given four or five injections of 20 c c each, except that one child of 4 was given 30 c c at the fifth injection of the antimeningococcus serum

Policlinico, Rome

Nov 28, 1915 XXII, No 48 pp 1605 1636

73 Fat Necrosis of the Pancreas, Two Cases Secondary to Cancer of the Biliary Apparatus, Postoperative Necrosis in One (Appunti casistici sulla patogenesi della steatonecrosi pancreatica) P Rusca

December 5, No 49, pp 1637 1668

74 Diffusion of Smallpox Vaccine in the Organism (Studio della diffusione del vaccino Jenneriano nell'organismo) L N Spolverini

December, Medical Section No 12, pp 529 572

75 *The Wassermann Reaction Positive in Chronic Disease of the Liver (Il valore clinico della reazione di Wassermann nelle malattie con lesioni croniche del fegato) C Verdozzi and L Urbani
76 *The Urochromogen Reaction in Children's Urine (La reazione di Moritz Weisz—reazione al permanganato—nelle urine dei bambini sani ed ammalati) G Genoese.

75 **The Wassermann Reaction with Disease of the Liver**—In this second installment of their article Verdozzi and Urbani give the details of twenty-six cases of chronic liver disease in which there was nothing to suggest possible syphilis In 9 cases of primary or secondary cancer of the liver, the Wassermann was positive in all but one In the 17 other cases the disease was mostly cirrhosis of the liver and the Wassermann was positive in 9, in 3 the fixation of complement test was positive even without the antigen In short, in all but 5 of the 26 cases of chronic liver disease the Wassermann test gave a positive reaction In 27 control cases of acute liver disease or acute affections of other organs, the response was constantly negative

76 **The Potassium Permanganate Test Applied to Children's Urine**—During the last three years Genoese has applied Weiss' urochromogen test to the urine of 457 children Three drops of a 1 per thousand solution of potassium permanganate were added to a test tube containing the urine diluted twice its volume with water A control tube contains an equal amount of the diluted urine A yellowish-gold tint is the positive reaction, otherwise the fluid does not change its color or merely turns brownish The findings were positive in 14 of 30 healthy children, in 25 of 84 cases of pneumonia, in 6 of 26 typhoid cases, in 24 of 56 with enterocolitis, in 12 of 26 children with whooping cough, and in 3 of 6 with scarlet fever The response was constantly negative only in 6 cases of nephritis and in 8 of chronic hydrocephalus He compares these findings with similar experiences published by others—the Italians having done a good deal of work in this line The contradictory and fluctuating findings with the test demonstrate that it has no clinical import but is merely a physical phenomenon, he declares in conclusion

Riforma Medica, Naples

Nov 27, 1915 XXXI, No 48, pp 1317 1344

77 *Treatment of Arrhythmia (Sguardo sintetico sulla fisio patologia e terapia delle aritmie) G Rummo
78 *Products of Putrefaction in the Intestines as Factor in Blood Diseases O Cantelli Commenced in No 45
79 *Case of Primary Intestinal Tuberculosis M Pennetta

77 **Treatment of Arrhythmia.**—Rummo reiterates that useful information as to the cause of the arrhythmia can be obtained by studying the modification of the rhythm as the patient changes from a seated or reclining position to stand erect, or holds up a limb or does some other exercise that makes demands on the heart The response to compression of the femoral arteries is also instructive These procedures gage the potential energy of which the myocardium is capable, and induce characteristic variations in the rhythm They are especially instructive when the changes which follow administration of digitalis or strophanthus are noted This pharmacologic test can be supplemented by the response to pilocarpin (0 0075 to 0 01 gm) given to stimulate the vagus, atropin (0 001 gm) to paralyze it, or epinephrin in the same dose to stimulate the sympathetic A day or so should be allowed to elapse between these tests Rummo does not place so much confidence as some do on the conception of vagotony and the drug tests for it, he warns that

they must be applied cautiously and with a very critical mind Tests with drugs which constrict and those which dilate the central or the peripheral portions of the circulation are also liable to afford insight into the causes of the arrhythmia, especially strychnin, epinephrin, the nitrites and amyl nitrite

Rummo emphasizes that the new terms "heart block," etc, are merely names suggested by our better knowledge of the causes of the disturbance The conditions themselves are old and familiar syndromes The arrhythmia is very seldom simple, there is usually disturbance in both contraction and conduction and possibly in the localization of the starting point for the wave of contraction It is important to recognize the various components of the clinical picture, and combat one or the other as indications demand For instance, with bradycardia associated with disturbance in the myocardium functioning with failing compensation, we must give digitalis or strophanthus to reenforce the myocardium, although we know that this may aggravate the tendency to heart block.

78 **Causal Connection Between Putrefaction Products in the Intestines and Blood Diseases**—Cantelli's experiments on rabbits confirmed the assumption that indol has a pronounced destructive action on the blood The blood findings under its influence were similar to those in the blood with gastric cancer Just as certain poisons, such as lead, are able to modify the blood until the blood picture suggests the type of pernicious anemia, the products of putrefaction in the intestines are liable to do the same in rabbits and probably also under certain conditions in man They may also, he says, be responsible for certain forms of what he calls chloro-*anemia, but not for true chlorosis*

79 **Primary Intestinal Tuberculosis**—In the case reported by Pennetta a previously healthy man of 21 developed mild intermittent evening fever, with abdominal pain and diarrhea These symptoms appeared and disappeared again and again growing progressively worse, and blood was noticed in the stools the second month Serologic and other tests for tuberculosis, typhoid, paratyphoid and Malta fever were negative, as also the diazo The temperature finally became subnormal and the abdomen extremely tender, with diffuse meteorism Death ensued in three months and necropsy revealed tuberculous ulceration in the intestines over a stretch of 4½ feet, two of the ulcers had eaten their way through the bowel Nothing abnormal was found elsewhere The fever had been constantly of the hectic type, but very mild and never lasting for more than two weeks at a time so that the affection ran most of its course without fever The physical depression was slowly progressive, like that with pulmonary tuberculosis even during intermissions of the other symptoms The absence of tubercle bacilli from the stools seems to be the rule with primary intestinal tuberculosis The differential diagnosis therefore may be a difficult matter as the elements for the diagnosis are inconstant and not very characteristic Prolonged study of the case is the only way to recognize it Passler has reported two cases in which it developed as sudden acute septicemia, Strumpell has reported symptomless cases and Schützler one in which a woman was stabbed in the abdomen in the midst of apparent health and the laparotomy revealed numerous tuberculous ulcers in the greater portion of the small intestine.

Semana Medica, Buenos Aires

Sept 9 1915, XXII No 36 pp 299 328

80 Cesarean Section for Prolapse of Umbilical Cord (Tratamiento de la procidencia del cordon por la operacion cesarea) E. A Boero
81 Swallowing of Air and Uncontrollable Vomiting Cured by Suggestion Tonics and Diversion (Aero-saliofagia y vomitos incoercibles) R. G Pizarro
82 Toxicity for Protozoa of Certain Stains. (Accion de los colorantes imino y fenolicos nitrados sobre algunas especies de protozoarios) L. Guglialmelli and I J Carbonell

September 16 No 37 pp 329 356

83 *Changes in the Vascular System and Their Bearing on Treatment especially with Aortic Insufficiency (El Signo de Hill en la insuficiencia aortica.) R. A. Bullrich
84 *Diagnosis of Incipient Pulmonary Tuberculosis C. P Mayer
85 Medical Report on the Prisons of La Plata (Movimiento habido en los servicios medicos de los establecimientos carcelarios de La Plata) E M Catalan.

80 **Cesarean Section for Prolapse of Cord**—The shallow contracted pelvis was regarded as the main factor in the irreducible prolapse of the cord, and the aseptic labor rendered cesarean section particularly promising in the case reported Both mother and child left the maternity in good condition the third week

83 **Diagnostic Differences of Pressure in the Vascular System**—Bullrich relates that the difference between the maximal pressure in the forearm and at the ankle was from 4 to 7 cm, mercury, in healthy subjects tested, seated Under the same conditions, the maximal pressure varied from 11 up to 15 cm mercury in eight patients with aortic insufficiency These findings confirmed in every respect Hill's statement in 1909 as to the differential value of such changes in the vascular system, confirmed by Hare in 1910

84 **Diagnosis of Incipient Tuberculosis**—Mayer gives the details of three cases to emphasize the necessity for suspecting incipient tuberculosis when a person begins to present symptoms of neurasthenia with slight anemia and tendency to unstable temperature In each he finally discovered some beginning apical lesions on one or both sides

Russkiy Vrach, Petrograd

Oct 3, 1915 XIV No 40 pp 937 960

86 *Prophylactic Treatment of Tetanus with Antitetanus Serum (O predokhranitelnom liechenii protivostolbnyachnoi sivorotkoi stolbnyaka u ranenikh) V E Proscurin
87 *Fusiform Bacilli (K voprosu o rasprostranenii veretenoobraznikh bakterii v prirodie) L R. Meyer

October 10 No 41 pp 961 984

88 *Traumatic War Neuropsychoses. A. V Gerver Commenced in No 40
89 Chondrosarcoma of the Manubrium Sterni L G Stukkey
90 Intracellular Granules of Living Cells Studied with the Paraboloid *Condenser N N Anichkoff*

October 17 No 42 pp 985 1008

91 Neuropathology Its Past Present Status and Future Problems M P Nikitin
92 Thoracotomy for Removal of Bullets and Shell Fragments from the Diaphragm Lungs or Pericardium V M Mintz and A. V Aizenstein

No 43 pp 1009 1032

93 Superior Advantages *of Martin's Pepton in Laboratory Work.* S V Korshun
94 *Effect of Air Concussion on the Central Nervous System (Encephalomyelopathia aero-traumatica s Neuropathia e contusione aeria) S A Soukhanoff
95 My Conception *of* Hysteria. L O Darkshevitch Commenced in No 41
96 *Ovum a Spermatozoid* (Yaitzo i zhivchik) A. T Brandt Commenced in No 40

86 **Preventive Antitetanus Serum Before Operations**—Proscurin warmly recommends prophylactic *injection of* antitetanus serum twenty-four hours before any operation on a wounded soldier for prolonged suppuration, and for removal of bullets or fragments of shells In the majority of cases it is possible to get along without an operation, but when it is necessary to interfere surgically, a prophylactic injection of the antiserum gives good results During eight months Proscurin had fifteen cases of tetanus and only two of these patients recovered During the two following months, in which the prophylactic injections were made, tetanus developed but once and in this single case the preventive injection had been neglected

87 **Fusiform Bacilli**—Meyer studied 489 animals, belonging to forty-two various species, for the presence of fusiform bacilli He found them in every type They were discovered in the buccal cavity, rectum, and even in the intestines of leeches He did not find them in fish spiders and some species of worms Whether the fusiform bacilli of such widespread occurrence represent a uniform type or show variations, he does not pretend to say, as special studies would be necessary to determine this Yet he [illegible]out that the bacteria found in various [illegible]ls differ in [illegible]in morphologic respects as he

88 **Neuroses and Psychoneuroses in the Soldiers**—Gerver divides the traumatic lesions of the nervous and psychic spheres (in soldiers) into the *traumatic* psychoneuroses and traumatic neuroses Both may be traced to contusions, especially those caused by air concussion or by wounds The clinical picture of the traumatic psychoneuroses resembles that of common traumatic neuroses, differing from the latter by peculiar hallucinations, illusions, obstinate focal symptoms and a peculiar condition of the upper lids, an inability to raise the upper lid after it has remained closed for a few seconds The traumatic psychoneuroses from air contusion are especially severe, as they show signs of diffuse lesions of the central nervous system In those caused by wounds, the local symptoms predominate and the course is milder The air concussion causes probably diffuse pathologic anatomic changes in the central nervous system, such as molecular changes, miliary hemorrhages, thrombosis and necrosis The treatment must be individualized, rest being the most important item

94 **Air Concussion and the Central Nervous System**—Nervous disorders arising in soldiers from violent shell explosions are, according to Soukhanoff, in the greatest majority of cases due to organic causes Though no external signs of lesions can be found, no wounds of the skin or head and no fractures, etc., the resulting symptoms such as mental confusion, depression, amnesia, ear and eye disturbances, paralysis, etc, are due to real anatomic changes in the central nervous system This assumption is sustained by the findings in the spinal fluid such as blood, abnormal albumin content and lymphocytosis, and the subsequent wasting of muscle Psychogenous and hysteric symptoms may complicate the clinical picture, but they are of secondary nature Therefore, Soukhanoff thinks that the disturbances should not be entitled "contusion psychoneurosis" but should be designated as air traumatism of the brain and spinal cord The pathogenesis of these lesions may be explained partly by the action of the rarefied atmosphere from the passing shell and partly by the formation of emboli in the blood, as in caisson disease The immediate action of the condensed air may hurl the man to the ground and cause a state resembling the so-called concussion of the brain The poisonous gases resulting from the shell explosion, the emotional shock and, possibly, hemorrhages in the central nervous system from an involuntary violent muscular effort are among other factors liable in this morbid condition

Nederlandsch Tijdschrift voor Geneeskunde, Amsterdam

Nov 27, 1915, II, No 22, pp 2367 2458

97 *Stomach Disturbances from Benign Enlargement of Glands near the Pylorus (Over maagstoornissen, veroorzaakt door goed aardige vergrooting van klieren in het gebied van den pylorus) R de J de Jong
98 The Cholera Vibrios Found at the Quarantine Station at El Tor, Sinai (Het El Torvraagstuk in de bacteriologie.) J J van Loghem.
99 Two Cases of Persisting Hyaloid Artery with Peculiar Restriction of Visual Field (Twee gevallen van arteria hyaloidea persistens met een eigenaardige gezichtsveldbeperking) P J Waarden burg

December 4, No 23 pp 2459 2550

100 Presenile Dementia of Alzheimer Type, Two Cases (De ziekte van Alzheimer) G P Frets
101 Vaccination against Hay Fever (Voorbehoedende vaccinatie tegen hooikoorts) B P Sormani
102 Luminal in Treatment of Epilepsy A Schoondermark
103 Free Body Found in Woman s Abdomen. (Een corpus liberum uit de buikholte) S M Kropveld

97 **Benign Proliferation of Glands in the Stomach**—De Jong describes in detail four cases in which there had been more or less serious disturbances on the part of the stomach In three the normal glands near the pylorus had proliferated, narrowing the lumen In the fourth case there was a lump of aberrant pancreas tissue obstructing the lumen The assumption of malignant disease had been amply justified by the disturbances, and the discovery of the absolutely normal microscopic tissue in the tumors was a great relief One patient was a woman of 38 and she had had stomach trouble for over two years, with much pain and emaciation There was also a history of a period of similar trouble at 18 The stomach sagged and was much dilated The lumen at the pylorus was obstructed by a ring of enlarged Brunner's glands and complete recovery followed resection of the pylorus and gastro-enterostomy Nothing was found to suggest an inflammatory process In a second case the enlarged glands formed a single tumor in the duodenum The boy of 12 succumbed to sarcoma of the tibia but shortly before death complained of severe abdominal pain, explained by perforation of the ulcerated and enlarged glands The third patient was a man of 28 who died from perforating ulcers, two in the stomach and two in the duodenum One of the former had developed on an enlarged gland In all three the proliferating gland tissue was apparently entirely normal The condition is not like that of congenital hypertrophy of the pylorus, but its cause is fully as much of a mystery as the latter Both are primary affections He does not know of any similar cases on record in which the connection with gastric disturbances was ascertained during life although Alsleben has reported some similar findings in cadavers De Jong recently discovered a small cyst at the pylorus in the cadaver of a man of 46, but there was no history of stomach trouble in this case The smooth elastic cyst had evidently *not* interfered with the stomach functioning or emptying

In De Jong's fourth case a man of 38 had suffered severely from stomach disturbances for eight years No tumor could be palpated in the stomach and on the assumption of a duodenal ulcer the abdomen was opened Nothing abnormal was found except a small bunch close to the pylorus, with a broad base in the mucosa. It was about the size of a pea but covered a space as large as a *finger nail* It was easily resected and the patient was freed at one stroke from all his disturbances The tumor proved to be aberrant but apparently normal pancreas tissue Illustrations are given of sections of the tumors in the various cases

Hospitalstidende, Copenhagen

Dec 15, 1915, LVIII, No 50, pp 1275 1302

104 *Pathologic Findings in the Cerebrospinal Fluid in Syphilis (Undersøgelse over Lymphocytose, Hyperalbuminose og Wassermann's Reaktion i Cerebrospinalvædsken ved Syphilis) C. With Commenced in No 49

104 **The Spinal Fluid in Syphilis**—With found pathologic reactions in the spinal fluid in 16 5 per cent of 212 syphilitics in the secondary stage Including the doubtful reactions, the proportion was 26 4 per cent The Wassermann reaction was positive with the spinal fluid in 3 3 per cent., there was pathologic albumin content in 9 per cent. and, pleocytosis in 12 7 per cent He classifies all this material, also 41 patients with latent and 17 with tertiary syphilis, 21 with congenital tardy untreated syphilis and 6 cases in which treatment had been applied Of 27 congenital tardy cases, the spinal fluid was unmistakably pathologic in 8 and probably pathologic in 3 more—a proportion of 30 and 40 per cent Of 15 patients with nervous syphilis, only 3 had a normal fluid, and only 3 of 23 with syphilitic disturbance of the central nervous system In 20 in this group there was pathologic albumin in 17 pleocytosis, and in 12 the Wassermann reaction was positive in the fluid He gives further details of this extensive study of 700 specimens of fluid from 500 patients and controls

Hygiea, Stockholm

1915 LXXVII No 21, pp 1265 1328

105 *Blotting Paper Test for Acidity in the Stomach (Studier over I Holmgrens kapillaranalys) S Orell
106 Present Status of Diathermia (Om diatermi) G Heuman

105 **Capillary Analysis of Gastric Acidity**—Holmgren's blotting paper test for gastric acidity was described in The Journal, March 18, 1911, p 857 Orell has been giving it a thorough trial anew with comparative tests He found that there was quite a difference between the results he obtained and those recorded by Holmgren, and finally traced this error to the drying out of the blotting paper that had been used It was so old that it had lost much of its adsorbing properties and the figures obtained were too *high* The findings after five minutes are taken as the standard When ten minutes have elapsed the probability of error is enhanced

The Journal of the
American Medical Association

Published Under the Auspices of the Board of Trustees

Vol LXVI, No 6 Chicago, Illinois February 5, 1916

CONSERVATION OF VISION AND PREVENTION OF BLINDNESS *

G E de SCHWEINITZ, M D
PHILADELPHIA

In a recent novel occur these words "The light was going fast With the splendid [I would amend, the foolish] disregard of youth for its most precious gift, Elsa strained her eyes to thread her needle once more" A great schoolmaster, rich in the wisdom of ripe experience, has said "More eyes are harmed in the home than in the school" Three children sat on the sidelines of a playground, blinking pitifully and peering uncertainly at their comrades romping over the field Asked why they did not join the merry throng, they replied, "We can't see well enough to play that game" A group of men and women from the better walks of life watched a company of children at play inmates of a great institution, all blind, and one fourth of them the subjects of blindness from a cause by which they need not have been enslaved Voicing a popular belief, one spoke thus "Isn't it pathetic, and yet how cheerful they are, how sweet their dispositions" Shall such sweetness, such cheerfulness, I ask you, be purchased with the coin of blindness?

Two years ago Henry Copley Greene, writing concerning the subject which interests us, issued a "challenge to the professions", today I would in like manner (I wish I were the master of Mr Greene's incisive language) issue, not a challenge, but an appeal to society, and ask five questions Shall Elsa be allowed to trifle with her most precious possession? Shall our homes be permitted to disregard the laws of visual hygiene? Shall children, and those children of the larger growth — men and women — remain on the sidelines because they can't see well enough to play that game, the great game of stirring life with its joy of untrammeled effort? Shall they not have a game which they *can* play? Shall we of these better walks of life pursue our ways in smug contentment, and permit the preventable causes of blindness to continue their black business and ever add to the roll of their victims?

Of the blind population of our country, in general terms these are the component parts Those who are really blind, for whom the light has gone out, those who still perceive the light, an even more pathetic group, those who see something (with the better eye) as we paradoxically phrase it, the practically or partially blind But the matter dose not end here There remains the great group, excluded from the blind population by strict definition, but excluded, too, in large measure, from the ordinary avocations of life whereby bread is won, the "partly sighted" They are not at home in the world of those who have sight, or in that of those who are blind They dwell in the borderland They sit on the sidelines

Let me turn for a moment to the blind For our present purpose it is not necessary to argue about accuracy of statistical tables, it is safe to say that fully 100,000 men, women and children in this country are, within the strict definition, blind, one fourth of this number need not have lost their sight — the causes of their misfortune are in large measure preventable These 25,000 persons, by their blindness, deprive the country yearly of about 8 millions of dollars' worth of productive labor Now the financial stability of our country is not disturbed by this loss of income, we can afford it, we cannot afford the stigma which the loss entails Because we want this blot erased, we are here to help in the work of health education and of eyesight protection, we are here to call on society for aid in devising measures and for means to carry them out in order that effective results shall merge into perfect victory We are here, too, I take it, to cure those who are dullsighted in this regard, so that with vision cleared they shall join in the struggle for ocular conservation and make it possible to give sweetness of disposition and ever present cheerfulness, not to the blind (the good God attends to that) but to those who shall be saved from blindness

The problems are manifold, and their solution of necessity varies in difficulty Much result-begetting labor has been expended, and we are deeply in the debt of many physicians in their individual capacity and in their state and national organizations, and in the debt, too, of many lay men and women who also in individual capacity, organization and in special field work have given a fine example of generous activity and effective service, which it is a joy to remember and a privilege to record

The efforts to prevent blindness have been directed through many channels — legal, professional, institutional, social and industrial They have often been described, and with most of them all of us are familiar Time does not permit me now to do more than touch on one or two points Twenty-five per cent of the inmates of schools and asylums for the blind have lost their sight from that ocular disease usually named ophthalmia neonatorum, which is a conspicuous cause of preventable blindness About 65 per cent of the cases of ophthalmia neonatorum are due to a microorganism of high pathogenicity, and this virulent type of the disease, it is estimated, is the cause of approxi-

---

Delivered before the National Committee for the Prevention of Blindness Nov 4 1915 mately 8 per cent of the blindness in most of the regions of our country If suitable measures are brought into action to check its ravages, the ocular mortality can be greatly reduced

In general terms, the measures devised and in operation for the elimination of this preventable cause of blindness are education, compulsory notification, the punishment by law of offenders against properly constructed legal regulations, and compulsory prophylaxis

EDUCATION

In any program for the prevention of blindness, education and its collaborator "publicity" properly receive large attention Education intimately concerns the midwife and other persons who have charge of a new-born child, and it should be a prerequisite for the registration of midwives that they should give satisfactory evidence of a proficiency in the knowledge of the dangers and prevention of ophthalmia neonatorum It is directly related to the duties of teachers of ophthalmology, obstetrics, bacteriology, sanitary science and hygiene, who should so instruct their students in this important subject that they may acquire not only the necessary information, but also a decent respect for their future responsibilities in this regard But even more important are the education which should be received by the mother who expects to bring a child into the world, by those who constitute her family, by her neightbors, and in short, by the society to which she belongs, and the methods by which this education shall be imparted To one method I shall refer

At stated intervals, in communities in which numerous foreigners and negroes of the poorer class are gathered together, from whom many of the most virulent types of this disease are recruited,[1] meetings are organized, and the dangers of the disease are detailed and the methods of overcoming them are described, not by a physician, a social worker, or a visiting nurse, whose advice even when tactfully offered is often resented or regarded with suspicion, but by one of their own number whose words receive respectful attention, and who has acquired influence in the community His lecture or talk has been prepared for him in the simplest language, and is read or recited by him at the meeting described, always in the language spoken by the majority of his audience, and is illustrated with suitable lantern slides In these circumstances mothers soon realize what they have a right to demand in the way of attention when their children are born, what they shall insist shall be done, and insistently done, if the eyes of the new-born baby show signs of inflammation, and what penalties may be imposed and must be paid if those in attendance disregard the danger with which the mother is now familiar

I do not deprecate the excellent results which have followed campaigns of publicity, illustrated lectures, exhibits, newspaper articles, and the distribution of pamphlets of instruction, but I have potent reasons for believing that knowledge thus filtered into the homes of those who are likely to be affected receives an amount of attention far exceeding that which is given to the more usual courses of instruction to which I have referred, and many others who have followed this plan can give like testimony Had I time I would read one of these lectures, prepared for just such meetings as I have described For this method of conveying information, we are indebted to Miss Henrietta B Ely

COMPULSORY PROPHYLAXIS AND THE FREE DISTRIBUTION OF A PROPHYLACTIC

It is generally, and I think correctly, assumed that since the introduction more than thirty years ago of the Crede prophylactic method there has been a decrease in the number of cases of ophthalmia, at least in large institutions in which trained nurses and trained service are available Most of us agree that in hospitals entirely devoted to obstetric service, or in hospitals in which large wards exist for this purpose, a modification of the original Crede method in the sense that the strength of the prophylactic is reduced from that originally recommended is of great value While I do not doubt, as Mr Van Cleve and others have pointed out, that the distribution of vials of a 1 per cent solution of silver nitrate to registered physicians, nurses and midwives has proved to be an advertising device both effective and informing, I do doubt whether this is a remedy which it is safe to place in the hands of those who are improperly instructed, or who altogether lack instruction, but who none the less perform the duties of a midwife, and I further doubt whether a leaflet containing directions as to how these vials shall be used is of much service to any of these imperfectly educated persons, and I regret to say that imperfection in education in this respect is not alone a fault peculiar to midwives I have seen so many severe silver catarrhs in my life, and have certainly seen at least half a dozen eyes badly injured by the reckless or improper use of silver nitrate, that I am inclined to agree with some of the contentions that are prevalent in England, particularly those of Mr N Bishop Harman, although I do not dispute the efficiency of the Crede method, and believe it to be essential in institution work and in the hands of those who are competent to use it

Three years ago I endeavored to ascertain, with the aid of the secretary of the committee on the prevention of blindness of the New York association, whether any advantage or disadvantage had been derived from the compulsory distribution of a prophylactic agent against ophthalmia neonatorum At that time the files of this office had no statistics to offer as to the advantage or disadvantage in these circumstances, and one was obliged to conclude, as the committee of the American Medical Association had pointed out, that the matter could be settled only by a consultation between committees of experienced physicians which exist in each state and the departments of state public health

I am fully aware that the distribution of a prophylactic among trained midwives and used by skilful physicians is capable of reducing the percentage of ophthalmia neonatorum, and it may even be, as Wootten has stated, that where the rigid supervision of midwives is in force, and where the training of midwives by accomplished obstetricians takes place, a greater number of cases of ophthalmia occur in the practice of physicians than in the practice of midwives

But this does not answer the objection which pertains to certain dangers which belong to the *unrestricted* distribution of the silver prophylactic, and it it is true that we are yet without the necessary information which should be on file and which should decide whether the advantages derived from the compulsory distribution of a prophylactic agent against ophthalmia neonatorum outweigh certain disadvantages, we ought to have it as soon as possible A consultation between committees of physicians and departments of health before referred to may be useful, but only too often represents a rather slow-working piece of machinery, and it would therefore seem to be imperative that one of the first duties of a national committee for the prevention of blindness should be to make, with the cooperation of the various state associations which are concerned in this vital business, an intensive study of this whole subject, a study which should be controlled from its central office and undertaken by field agents and others interested in this important matter This becomes especially important because of the recent statement of one of the greatest of continental authorities that sophol should be used in place of "the formerly employed Crede silver prophylactic"

---

[1] *Children of English speaking parentage* are by no means immune for example, among 116 cases of ophthalmia neonatorum treated in the Gardner ward of the Massachusetts Charitable Eye and Ear Infirmary, according to some published statistics, it was found that seventy three had come from English speaking parentage and sixty three *from* homes that were considered to be good The scheme of instruction outlined above does *not* of course apply in circumstances like these

In the absence of satisfying knowledge on this subject, and so far as my present personal experience is concerned, I believe that compulsory notification represents the most effective method at our command, a notification which should go at once to a legally qualified practitioner, or to a responsible board whose officers can quickly command the services of some one skilled in the treatment or the management of ocular disease This usually secures promptness in treatment, and evidently, as Lucien Howe has said, should there be neglect in reporting, and should the strong hand of the law reach out to a person, no matter who he or she may be, who trifles with the vision of an infant, the effect is extremely salutary

As is frequently the case, a district physician or registered midwife, recognizing ophthalmia neonatorum in its earliest stages, sends the child to a competent eye dispensary, and the daily treatment is excellent, but it is not enough, it is the constant supervision of these eyes by trained persons which saves sight Since all properly managed hospitals at the present time have as part of their equipment a social service, the difficulties of home treatment have been lessened, and the follow-up system has been productive of admirable results, as witness the value, for example, of this type of work in Boston and other cities

And yet even the social worker and the follow-up system are not always able to control home treatment, or at least not able to make it as effective as the virulence of the inflammation of the baby's eyes may demand In some cities there are hospitals with wards specially arranged, like the admirable Gardner ward of the Massachusetts General Hospital, for the treatment of these diseases, but many hospitals have no such wards Not only have they no such wards, but many of them do not admit these cases

In a collective investigation made by a member of my staff, Dr T B Holloway, of forty-two hospitals in Pennsylvania, only two returned an unqualified statement that ophthalmia neonatorum patients would be accepted Very properly, he concludes that hospitals receiving state aid should be compelled by law to provide suitable accommodations for the victims of ophthalmia neonatorum Moreover, society, in the general sense of the term, which supports certain other hospitals not accepting state aid, should demand that they shall make similar provisions The National Committee for the Prevention of Blindness should force this issue with all the influence it can command, not only because it represents a real work of humanity, but also, if you choose, from a commercial standpoint, because it would mean a reduction of the blind from this cause and therefore a lessening of the economic loss to the commonwealth in which these hospitals exist

In one state of this Union it has been computed that 100 of the young blind have lost their sight from ophthalmia neonatorum, and that these 100 young persons will eventually cost the state $300,000 for education alone, while the economic loss to the commonwealth because of their lifelong dependence will be many times that sum Three years ago in the state of Pennsylvania, $123,000 was appropriated by the commonwealth to four institutions or organizations for the blind, and approximately $32,000 of this money was devoted to the welfare of those who were blind from ophthalmia neonatorum Moreover, as Dr Holloway in his admirable report on the subject points out, it costs the state of Pennsylvania approximately ten times as much to educate one blind child as it does to educate one seeing child Perhaps if these figures and similar estimates which could be readily gathered in the various states, were presented to the legislators, they would see fit to take into serious consideration such a law as I have ventured to suggest, especially if it were made plain that if a child with ophthalmia neonatorum in the earliest stages of its development can be transferred to a ward specially devoted to the treatment of this disease, except in rare circumstances, the inflammation can be brought into control and sight saved

TRACHOMA AND GLAUCOMA

Ophthalmia neonatorum and its ravages are so conspicuous that they have received, I will not say undue attention, for too much attention cannot be paid to this subject, but an attention which has overshadowed the importance of many of the other preventable causes of blindness There is some danger that people outside of the medical profession and of the organizations devoted to visual conservation shall come to regard the prevention of blindness and the prevention of ophthalmia neonatorum as synonymous terms, and unwittingly fail to realize the scope and possibilities of the national committee for the prevention of blindness The same, in a certain sense, as Dr Alger has pointed out, is true of trachoma, and important as the subject is from the standpoint of control of immigration, as well as from the standpoint of the elaboration of facilities for the management of this disease, now happily increasing on all sides, I shall not make further reference to it Neither shall I attempt to discuss toxic blindness and its prevention, or the problems which surround certain infections, dyscrasias and constitutional diseases in their relation to the degradation of vision, or industrial blindness

I wonder if it is generally realized how large a percentage of blind persons owe their loss of sight to the disease glaucoma This disease shall serve as a sample of some of the work which it would seem to me pertains to such an association as this is and proposes to be If a study is made of the cases of blindness in hospitals, it will be found that the percentage of blindness from glaucoma often exceeds that from any other cause, such an investigation was undertaken by the Massachusetts Commission for the Blind in 1910 To prevent this disease, or rather, to check it after it has been discovered, Mr Greene suggests eugenic education, inasmuch as it is sometimes hereditary, the wise distribution of public clinics, and the careful record of the social worker's desk of patients who have come for the relief of glaucoma, so that they shall come under the influence of the follow-up system All these suggestions are good, but a great difficulty is that patients with the nonpainful, so-called chronic types of glaucoma often report too late They do not realize what has been slowly taking place, and come only when vision is so far degraded that they are helpless We educate, or try to educate, households in the dangers and symptoms of ophthalmias Why not educate them in the early symptoms of glaucoma? I called to see a woman blind, or practically blind, from this disease not long ago, and while evolving the history, the long pathetic history, I was struck with an expression of one of the children in the family who remarked, "We used to wonder when mother took us to the movies why she always saw colored rings around the lights" If only "mother" had known what those colored rings meant there would be one less blind woman in the city from which I come

Now the social worker who makes, to use Mr Greene's expression, a calendar of glaucoma patients in any hospital, and properly follows them up, will do much, for it is through this channel that the education most readily passes to the races among which this disease is most prevalent, and who are the best customers of the eye clinics Furthermore, an important function of social service is concerned with the recognition of symptoms in those who sadly need attention, but who have never presented themselves for examination, not only in the house which is visited, but also in the neighbor's house, and quickly the knowledge of the symptoms of any disease which demands prompt treatment filters through a crowded street Such a disease is glaucoma, with its long prodromal period, just the period during which the disease can be stopped before it has produced changes which are practically irremediable I take this affection as an example To many other ocular conditions the same plan of prevention applies Therefore it would seem that a national committee for the prevention of blindness should control a social service as part of its equipment, whose workers should specialize in ocular diseases, and who should in this regard assist in the extension of this work of the hospital physician into the life and home of the patient, and who would be attached to eye clinics and dispensaries which cannot afford the important help which comes from trained service of this character The foundation of such a social service, controlled and supported by the National Committee for the Prevention of Blindness, would be welcomed by the social service organizations of this and other cities, it would possess both graduate and postgraduate possibilities and would represent another arm of the great service which is dedicated to the work of saving sight Time does not permit me to elaborate the plan and its effectiveness I am sure society would realize the advantages which would spring from it, and I trust would support it

WORK OF A NATIONAL COMMITTEE

The work of a national committee for the prevention of blindness should not be concerned alone with the prevention of blindness, in the strict sense of that term It ought to be concerned with, and surely is much interested in, the elimination of the evils which spoil eye efficiency I am thinking about Elsa and the fading light, and I am thinking, too, of the kind of light that ought to exist in homes, in schools, in factories and in stores To be sure, a great deal has been done along these lines, and is part of the committee's work Think how much has been accomplished since the almost universal examination of schoolchildren's eyes has been been made practically obligatory, and the problems of proper lighting have been carefully studied Think how much good has been done by the Council on Health and Public Instruction of the American Medical Association in its publication of the Conservation of Vision series, under the stimulating influence of the capable chairman of the Committee on the Conservation of Vision, Dr Allport I venture to suggest that a national committee such as this is should have a subcommittee concerned entirely with the important question of illumination.

Doubtless every ophthalmologist can testify that scarcely a month goes by during which he is not consulted by some school or college or public institution as to the best type of illumination Men in charge of these institutions want to know authoritatively about what Mr Ferree calls the efficiency of the eye under different systems of illumination We all are aware that the rays emitted by artificial lights, when studied with a spectrum, show a remarkable variety, and the potent remarks of Mr Parsons on this subject may be emphasized, to wit, that too often the aim of inventors has been to attain a maximum efficiency, that is, a maximum illumination at a minimum cost, and comparatively scant attention has been paid to physiologic efficiency, and too little attention to the quality, that is the wave lengths of the rays emitted by artificial sources of illumination Would it not be a good thing if there was a department of the National Committee for the Prevention of Blindness to which application could be made for the latest information in regard to illumination? You may say that there are always illuminating engineers at the disposal of those who are interested in building operations, and of course such a department as I speak of would have to be in consultation with illuminating engineers and would need them on its staff You know that doctors constantly appeal to The Journal of the American Medical Association for information on any given topic, medical or surgical, and know how admirable the replies are Would it not be perfectly possible to have an information department on illumination and its relation to visual efficiency and the conservation of the eye, a department to which the inquirer could turn for the latest practical scientific information on this subject? I do not question that it would be supported handsomely if it were known that it had been established, and you would not have far to go for the chairman of that information bureau You have him right here heading the list of your board of directors The work of such a bureau would be interesting and effective

According to Mr Van Cleve, the most important part of this national committee's work at the present time is carrying on educational propaganda, furnishing material for workers in the field and inspiring such workers to service, and he believes that in these particulars its obligations are being met He is fully alive, however, to the importance of creating through this national committee an agency for devising means to protect, care for and conserve vision Indeed, it would seem to me, and I have no doubt seems to all of those who are concerned with the management of this organization, that conservation of vision in the widest acceptation of the term should be a function of paramount importance in the administration of its affairs It is impossible in the time at my disposal to do more than make reference to the problem, for example, which surrounds the education of those who are highly myopic, the necessity of classifying them according to the degree of their visual defect, and of arranging their work accordingly This has been the subject of much study, on the part, for example, of Mr N Bishop Harman in London, where, as you know, there are schools, or if not schools, departments in schools, where these high myopes, properly graded, are instructed with full consideration of their visual handicap The same is true in the city of Berlin

SCHOOLS FOR THE BLIND AND PARTLY SIGHTED

But it must be evident that there are many children who, in general terms, are classified as "partially blind" and "partially sighted," and they constitute an essentially different group from the myopes to whom I have made reference As Mr Burritt puts it, from the point of view of the educator of seeing children, they are "partially blind", from that of the educator of blind children they are "partly sighted" They represent the class of which I spoke earlier in this paper, who, in general terms, are not blind enough to be in a school for the blind, but who are too blind to keep pace with those who are in schools for the sighted They are visually handicapped, they sit on the sidelines and cannot play the game

It is not my province, nor is the time an opportune one, to discuss the coeducation of blind and sighted pupils, or whether Mr Harman's suggestion that all partially sighted children shall be excluded from schools for the blind shall be followed, or whether arrangements should be made in these schools for the blind to take care of those who have some sight But it is interesting to know that there exist in some form in connection with the public schools of twelve states in the United States classes for the visually handicapped, and in most of these public schools there is a provision for the coeducation of the blind and sighted But more important, it seems to me, are those classes which have been instituted in Boston, in Cleveland, in Toledo and in Cincinnati for the partly sighted children, even if the educator of seeing children looks on them as partially blind Certainly provision should be made, as Mr Burritt and Dr Halloway point out, for the instruction of these children in connection with the schools of the children who have normal sight, because these visually handicapped persons must make their way through life, not as blind, but as sighted people, and their associations should, therefore, be with those who see, and not with those who are blind

It is a matter of great satisfaction to read the report of Mr Irwin, who has charge of the special classes in the Cleveland public schools, sent within the last few days to our institution at Overbrook, that there are now four centers in the Cleveland public schools for totally blind children, and four for those who are partially blind, that is, partly sighted The importance of having a number of centers must be manifest to everybody, as it solves at once the difficulties of transportation Much is being done for these borderland dwellers, but much more can be accomplished, and therefore a national committee for the prevention of blindness and the conservation of vision should do all in its power to improve facilities of education in this regard, and should concern itself not only with the conservation of vision, but also with the utilization of such vision as these handicaped children possess In each community, through society, proper representations should be made to the various boards of education, so that they shall take up this matter, even as it has been most successfully taken up by some of the schools to which reference has been made

It must be evident how great a work a committee such as this is and proposes to be can accomplish in this respect As has often been pointed out, the principles underlying the management of partly sighted individuals depends in largest measure on a reasonably exact classification of the material which would come under the observation of a national committee which concerned itself with this problem We know that children with full sight in elementary schools ought not to be lumped together in their courses of instruction, and it has been well said by Harman that "the teaching of all children should be a retail and individual proceeding, not the wholesale, stock-pattern sort of thing that takes place in our elementary schools," and yet it is difficult to get away from this faulty technic because of the large number of children who apply for education With the partially sighted the problem is not so difficult, the material being less great, and the classification could be more readily accomplished Just here I am tempted to exploit one of my pet theories, namely, that in schools for the blind and schools where the partially sighted are educated, much help could be gained by a sensible application of the principles of modern psychologic research I am sure this is true in schools for the blind, and I know that Mr Burritt of the Overbrook school agrees with me I have not time to tell you how I think it would work out, but I cannot help expressing the hope, if not the belief, that an investigation of this character among the partially sighted would help in the classification in accordance with the need of the case of each child, and I would like to see a trained psychologist on the staff of the national committee

THE ETIOLOGY OF SYPHILITIC AORTITIS *

DOUGLAS SYMMERS, M D
Associate Professor of Pathology University and Bellevue Hospital Medical College Pathologist St. Vincent s Hospital

AND

GUY H WALLACE, M D
Pathologist Bellevue Hospital Instructor in Pathology University and Bellevue Hospital Medical College

NEW YORK

There is an inflammatory lesion of the aorta — the chronic productive mesaortitis of Heller,[1] Döhle[2] and the Kiel school of pathologists as a whole — in which the anatomic features are so frequently associated with syphilis as to indicate a specific origin In certain quarters, however, there still is a tendency to question the syphilitic nature of the process The lesion, which often is associated with a definite clinical history of syphilis, is practically always attended by anatomic indications of syphilis beyond the vascular system, such

---

* From the Pathological Laboratories of the New York Hospital and of Bellevue and Allied Hospitals

[1] Heller Verhandl d. deutsch path Gesellsch. 1899 ii 346

[2] Dohle Deutsch Arch f klin. Med 1895 lv 190

as atrophic pigmented cutaneous scars, indurative atrophy of the base of the tongue, syphilitic changes in the osseous system, gummas in various localities, and other signs of like significance Inability to demonstrate these changes is to be ascribed, in the majority of instances, not to their absence, but to failure to find them or to interpret them properly—an opinion which we venture to assert on the basis of a somewhat extended postmortem investigation of the subject, and which is in accord with the experience of others who have sought persistently for anatomic confirmation of the syphilitic nature of mesaortitis

Direct evidence bearing on the specific nature of the lesion in question is afforded by the fact that organisms morphologically indistinguishable from *Spirochaeta pallida* have been demonstrated in the aortic wall in Levaditi preparations (Benda,[3] Reuter,[4] Schmorl,[5] Wright and Richardson,[6] and Longcope and Cook[7]) Others, however, have been less successful Thus, one of us (Symmers) in a prolonged search for spirochetes in the granulomatous and sclerotic lesions of syphilis in various viscera, was unable to convince himself of the presence of spiral organisms in a single one of thirty cases of syphilitic aortitis Crowell,[8] working in the Philippine Islands, Aschoff,[9] in Germany, and Leslie Brown,[10] in the laboratories at Bellevue Hospital, have likewise failed Nevertheless the subject is worthy of further pursuit, and it is this line of investigation which, we believe, will eventually lead to the dissipation of all doubt concerning the specific nature of the lesion

Another and highly suggestive indication of the syphilitic nature of the process is afforded by the circumstance that, of seventy cases of mesaortitis, 78 5 per cent yielded a positive Wassermann reaction[11]

As far as the anatomic changes are concerned, they are most frequently observed in some portion of the arch of the aorta, and tend to disappear as the vessel descends in its course Occasionally the thoracic or abdominal aorta is exclusively involved The naked eye appearances are characteristic and are marked by sharply defined, pale, hyaline elevations scattered over the inner surface of the vessel These elevations, which seldom exceed a depth of a few millimeters, vary in diameter up to several centimeters, and are elastic in consistence, smooth to the touch and free from calcium In some cases the hyaline plaques are so distributed as to produce stenosis of the coronary arteries or other of the smaller branches of the aorta, and partial or even complete occlusion of such enormous branches as the innominate and left carotid has been described[12] Aneurysmal dilatation of the arch, true saccular aneurysm, dilatation of the aortic ring and thickening of the aortic valves, following downward extension of the inflammatory process, are not infrequently to be observed

Histologically, the lesion is marked, among other changes, by sclerosis of the adventitia and round cell foci in it, the latter often arranged round newly formed, thin-walled vascular channels, the granulomatous tissue extending into the media and, sometimes, into the subintimal region Scattered through the vessel wall are collections of lymphoid and plasma cells with a sprinkling of epithelioid cells Occasionally the center of such a focus is necrotic, and giant cells are arranged peripherally These cellular composites are best interpreted as miliary gummas There are other cases, however, in which similar foci include giant cells formed round foreign bodies, such as cholesterin crystals, and the resemblance to gumma is striking In addition to all this, the media exhibits areas of fibrosis or of necrosis, the subintimal connective tissue is thickened and thrown into heaps, and the inner surface of the vessel presents depressions corresponding to scars produced by retraction of the underlying connective tissue Finally, special stains reveal numerous breaks in the elastic fibers, the intervening muscle cells showing signs of advanced granular degeneration or actual necrobiosis

The fact that the naked eye changes in this variety of arterial disease are so frequently found in association with classical signs of syphilis in other parts, and that the histologic alterations sometimes include genuine gummas, the occasional detection of spiral organisms in the vessel wall, the clinical history of chancre, and the frequent occurrence of a positive Wassermann reaction, combine to show that the lesion is of syphilitic origin In fact to deny its specific nature at the present moment is apt to be regarded as a pose in the direction of singularity There are, however, contributing factors which, as far as we have been able to learn, have not been adequately dwelt on, and it is for this reason that we venture to record the observations which follow

Out of several hundred examples of syphilitic aortitis observed at necropsy at the New York, Hudson Street and Bellevue hospitals, we have selected, quite at random, seventy cases, and have correlated the anatomic findings with the clinical histories

Of the seventy cases, fifty-six, or 80 per cent, occurred in males

The ages, grouped in decades, are given in Table 1 from which it is apparent that syphilitic aortitis is encountered oftenest between the ages of 30 and 50 years (71 4 per cent)

TABLE 1—AGES OF SEVENTY PATIENTS WITH AORTITIS

Ages	Number of Cases	Per Cent
From 20 to 30	1	0 1
From 31 to 40	16	22.8
From 41 to 50	34	48 5
From 51 to 60	12	17 0
From 61 to 70	7	1 0

TABLE 2—TIME BETWEEN INFECTION AND DEATH

Number of Cases	Lapse of Years	Number of Cases	Lapse of Years
1	10	4	25
4	12	2	21
1	17	1	22
1	19	1	32
5	20	1	40

Grouped according to years, the difference in point of time between infection by syphilis and death with well marked signs of syphilitic aortitis is given in Table 2

---

[3] Benda Berl klin Wchnschr, 1906, xliii, 989

[4] Reuter München med Wchnschr, 1906, liii, Ztschr f Hyg u Infectionskr, 1906, iv, 49

[5] Schmorl München med Wchnschr 1907, liv, 188

[6] Wright and Richardson Rep Massachusetts Gen Hosp, 1909

[7] Longcope, W T Syphilitic Aortitis Its Diagnosis and Treatment, Arch Int Med., January, 1913, p 15

[8] Crowell Personal communication

[9] Aschoff Pathologische Anatomie, ii, 77

[10] Brown Personal communication

[11] Pearce, R M The Wassermann Reaction in the Pathology Diagnosis and Treatment of Syphilis, Arch Int. Med, November, 1910 p 478

[12] Darling and Clark Jour Med Research, March, 1915, p 1

In twenty-four of the seventy cases, a history of syphilis was elicited during life Grouped in decades, infection occurred as shown in Table 3

TABLE 3—OCCURRENCE OF INFECTION

Age	Number of Cases	Per Cent
From 10 to 20	3	12
From 21 to 30	16	66
From 31 to 40	4	16
Not given	1	

It is a matter of common knowledge that the cardiovascular lesions of syphilis are essentially those of comparative youth, so it is not surprising to find that, in our series, syphilitic aortitis was most commonly observed between the ages of 30 and 50 years (71 4 per cent) In Longcope's series of sixty-three cases, the majority of the subjects were young, 80 9 per cent being between the ages of 20 and 50 years

TREATMENT

Of the seventy cases in our series the history relating to treatment was obtained in twenty-four instances Of this number, six received no treatment, nine were treated for a few days or weeks, two were under treatment for three months, three for from six to twelve months, two for over a year, and in two instances, the length of treatment was not recorded

In twenty-one of our subjects in whom it was possible to determine the date of infection and the length of treatment, it was found that an average period of 20 5 years had elapsed between infection and death In all of these cases treatment had been neglected or abandoned In Cummer and Dexter's[13] series of twenty-seven patients there was an interval of 17 2 years between infection and the appearance of *symptoms*, in Longcope's[7] series of twenty-three patients an interval of 16 4 years, and in Deneke's[14] series of 200 cases an interval of 20 25 years The interval of 20 5 years between infection and death, as established by our series of postmortem examinations, and that of nearly eighteen years, as shown by the combined cases of Cummer and Dexter, Longcope and Deneke, are even more closely approximated when it is recalled that, with the development of symptoms in syphilitic aortitis, the disease, for some unknown reason, pursues a rapid course, and death ensues within two or three years Thus it appears that, even in untreated or neglected syphilis, involvement of the aorta is a late event It is to be presumed, of course, that treatment is a highly important factor in the prevention of syphilitic aortitis However, in a case in which the necropsy was done by one of us (Symmers) the subject, who was a physician, had been under intelligent antisyphilitic treatment for three years and, at necropsy, the aorta presented numbers of sacculated aneurysms and was an exquisite example of syphilitic aortitis from commencement to bifurcation

OCCUPATION

The great majority of the men concerned in our series were of the type whose hours are long and whose work is physically strenuous The occupations were distributed thus iron worker 1, painter 1, brakeman 1, engineer 2, laborer 6, cook 2, porter 2, bricklayer 3, waiter 4, longshoreman 2, janitor 3, salesman 3, watchman 1, sailor 2, blacksmith 1, elevator man 2 teamster 2, orderly 1, cabinet maker 1, bartender 1, cigar maker 1 Among the women were 5 housewives, 1 cook and 1 nurse

Among occupations such as these it must be that there are frequent periods during which the blood pressure in the aorta is raised, often suddenly, as in heavy lifting, thus predisposing to stretching of the vessel wall, to rupture of the elastic fibers and to advancement of an inflammatory process which, in the most favorable circumstances, is never given the mechanical benefit of rest It is significant that, in one of our cases, necropsy revealed numerous threadlike lacerations in the intima of the aorta due, apparently, to the fact that, in the agonal hours, the patient had vomited violently and without appreciable intermission

HABITS AND INTERCURRENT DISEASES

Of the 70 patients, forty-six, or 65 7 per cent, admitted addiction to the immoderate use of alcohol A few were confirmed coffee drinkers The influence of tobacco could not be determined

In seventeen cases (24 2 per cent) there was a history of definite, often repeated attacks of acute rheumatic arthritis This is significant when considered in connection with the fact that acute rheumatic arthritis of itself is known to cause inflammatory changes in the normal aorta It is safe to assume that the same is true of other infections For example, one of our subjects, a man, aged 60, had contracted syphilis at the age of 20, and discontinued treatment six months later He had had one attack of acute rheumatic arthritis At necropsy the arch of the aorta and the abdominal aorta showed extensive syphilitic changes, and the hyaline patches had undergone necrosis, producing areas of erosion Friedlander's pneumobacillus was isolated in pure culture from the blood Infections other than syphilis must, therefore, exert an inimical influence on an aorta already the seat of structural changes

A history of malaria was elicited six times, smallpox twice, chronic bronchitis with winter cough once, and recurrent gout, typhoid fever, yellow fever and chronic dysentery once each

ANEURYSM AND SCLEROTIC AORTIC VALVULITIS

In our seventy cases, aneurysm occurred twenty-one times, or in 30 per cent, a figure which is in close agreement with that of F H Welch[15] who, in fifty-six cases of fatal syphilis, found aortic disease in 60 7 per cent and aneurysm in 32 per cent While it is apparent from this that considerable numbers of all patients with syphilitic aortitis eventually develop aneurysm, the converse is equally striking, namely, that, in the aorta, from 75 to 90 per cent of all aneurysms are directly traceable to syphilitic aortitis (Heller,[1] Puppe[16])

In eleven of our seventy cases (15 7 per cent), the first portion of the arch of the aorta was dilated without attendant evidence of thickening and retraction of the aortic cusps, and, of this number, five, or 45 4 per cent, presented clinical signs indicative of relative insufficiency at the aortic ring

For many years clinicians have been aware that there is a relationship between a group of cases of aortic regurgitation and the so-called parasyphilitic diseases, paresis and tabes dorsalis While syphilis as the underlying cause of both paresis and tabes has long been recognized, it is only within comparatively recent years that the same factor has been invoked to explain these and certain other cases of aortic regurgitation Thus, in 1902, Fabris[17] pointed out that syphilitic aortitis not uncommonly eventuates in simple dilatation of the aorta, or in actual thickening and retraction of the aortic cusps as a result of downward extension of the inflammatory rocess, producing, in either event, phenomena refer- to *insufficiency at the aortic orifice* This obser- ion has since been confirmed by Saathoof[18] Monckeberg,[19] Longcope[20] and others In Longcope's series of seventy-six uncomplicated cases of chronic aortic valvulitis, twenty-one, or 34 per cent, were associated with syphilitic aortitis In our series, nineteen, or 27 per cent, were attended by sclerosis and retraction of the aortic valves

---

[13] Cummer C L. and Dexter Richard The Relation of Aortitis to Syphilis and the Importance of Its Recognition The Journal A. M A Aug 10 1912 p 419

[14] Deneke Deutsch med Wchnschr 1913 xxxix 541

[15] Welch F H Lancet London 1875 ii 769 899 Med Chir Tr 1876 lix 59

[16] Puppe quoted by Pearce (Footnote 11)

SUMMARY

1 The mesaortitis of Heller and Döhle is essentially a syphilitic lesion, but *its production is favored* by certain other factors, among which age, sex, the length and character of antisyphilitic treatment, intercurrent disease, especially infections such as acute rheumatic arthritis, alcoholism, and occupations necessitating prolonged physical strain play a not unimportant rôle

2 (*a*) Syphilitic aortitis occurs most often in males — in 80 per cent of our series — a fact which assumes additional importance when taken in connection with occupational influences

(*b*) Syphilitic aortitis is a lesion of comparative youth, occurring oftenest between the ages of 30 and 50 years — in 71 4 per cent of our cases

(*c*) In untreated or neglected syphilis, the average interval between infection and death with *anatomic confirmation of the existense of syphilitic aortitis is* 20 5 years, *from which fact it is apparent that, even in the least favorable circumstances, the lesion arises late in the course of syphilis*

3 (*a*) About 30 per cent of all patients with syphilitic aortitis develop aneurysm

(*b*) At least 15 per cent of all cases of *syphilitic* aortitis are attended by dilatation of the first portion of the aorta

(*c*) About 30 per *cent of* all cases of syphilitic aortitis eventuate in sclerosis and retraction of the aortic valves

(*d*) Leaving out of consideration the occurrence of such clinical phenomena as angina pectoris and cerebral disturbances referable to occlusion of one of the larger branches of the aorta, such as the innominate or left carotid artery, it appears to be probable that few cases of syphilitic aortitis pursue a course free from subjectively appreciable or even detectable clinical manifestations

---

[17] Fabris Gaz med ital, 1902 Kaufmann, Spez Path Anat, Ed 6, p 78

[18] Saathoof München med Wchnschr, 1906, liii, 2050

[19] Mönckeberg Med Klin, 1905, i, 1027

[20] Longcope, W T The Association of Aortic Insufficiency with Syphilitic Aortitis, The Journal A M A, Jan 8, 1910, p 118

The Barrel Chest—Nothing is less like a barrel than the "barrel chest" Its most striking characteristic is its greatly increased anteroposterior diameter, so that it approaches the form of the *infant's chest*—Richard C Cabot

---

THE REACTIONS AND RESULTS OF TREATMENT IN CEREBROSPINAL SYPHILIS

GEORGE DRAPER, MD
NEW YORK

The purpose of this paper is to present the relationship between the *discomforts* from intravenous-intraspinal treatment and the results in terms of the individual's increased or restored economic value to the community

The material on which the following observations are made consists of thirty-eight cases, watched over periods varying from three months to three years Fortunately the variety in clinical types has been especially great, so that in this small series almost all the classical forms as well as numerous unusual examples of cerebrospinal syphilis appear *To these thirty-eight* patients were given 1,126 intravenous injections and 355 intraspinal injections of medicated serum

The technic of administration was *the usual one* The spacing of the doses was varied with the individual On the basis that it was desirable to give every patient the maximum amount of the drug, each was *started on a weekly injection, usually following* a couple of weeks' mercury preparations, of 0 3 gm of salvarsan, increasing from 0 4 in the early stages of *the work to* 0 6 gm

DISTURBANCES

In considering the question of distress to the patient caused by the intravenous injections, every subjective and objective change *from normal conditions, no matter* how trivial, has been recorded Table 1 shows the different kinds of reactions met and their relative frequency Obviously the most frequent is the so-called anaphylactoid *phenomenon* appearing as slight flushing of the face, urticaria, or more severe shock This is a remarkable occurrence and one which deserves special consideration About 55 per *cent of all the* cases show the condition at one time or another during the treatment, but in the total of 1,126 injections, its incidence is about seventy-three, or 6 5 per cent It has occurred both *in men and in* women, and the age of the subject seems to have no bearing In most cases the phenomenon occurs *at or after* the fourth injection, rarely at the second, never at the first

TABLE 1—DIFFERENT KINDS AND RELATIVE FREQUENCY OF REACTIONS

Reactions	Number	Per Cent
Slight flushing	39	3 46
Acute shock	34	3 1
Urticaria	12	1 1
Nausea	13	1 2
Vomiting	30	2 7
Diarrhea	13	1 1
Chill	7	0 6
Malaise	14	1 3
Pain increase	4	0 3
Pain or swelling in veins	5	0 4
Thrombosis	3	0 2
Jaundice	2	0 1
Dermatitis (As)	2	0 1
Herxheimer (rash or nodes)	10	0 9
Edema	1	0 09

Usually if the reaction has not appeared in a given individual by the fourth or fifth injection, it *does not* occur In one *exception it showed* first at the tenth injection When the patient has had one reaction—that is, has become hypersensitive to the drug—*the* chances are great that each *subsequent treatment* will be accompanied by the phenomenon in greater or less severity Many patients presenting this condition of hypersensibility report tasting or smelling the drug almost instantly after the inflow into the vein begins

The symptoms of this curious phenomenon vary considerably in intensity but follow a very constant type In the mildest cases there is simply a faint suffusion of the face, so slight that it passes unnoticed by the patient More striking are the examples in which subjective sensations of an unaccustomed and often distressing nature cause the patient to move restlessly and cough once or twice, or draw a deep breath Usually a suffusion of the conjunctival vessels precedes this restlessness and gives warning of an approaching reaction The patient stops talking and begins to move his head a little from side to side, clears the throat frequently, and then often says with rather a suppressed voice, 'I feel sort of queer" The suffusion deepens rapidly and the face swells, and the red color changes to cyanosis, and occasionally almost blue A little later the blueness gives place to ashen gray, which may be of an extreme grade While the color changes are passing over the face the respirations are short and rapid, and the patient is evidently working hard to get as much air as he wants He complains of a sense of oppression beneath the sternum and occasionally of feeling his heart beat heavily As a matter of fact the cardiac action remains undisturbed in many cases throughout the reaction, though great pulse weakness is met occasionally The whole disturbance lasts from three to five minutes and passes oft gradually, leaving the patient rather limp and discouraged Very frequently vomiting occurs during the succeeding hours Blotchy, urticarialike spots have appeared in two or three cases almost immediately after the termination of the shock

To a certain extent the disturbance may be prevented by very slow administration of the drug Indeed, with some cases one may cause the shock to appear or disappear merely by starting and stopping the inflowing salvarsan Other methods have been suggested for the control of this reaction, such as epinephrin given intramuscularly ten minutes before the treatment, and $\frac{1}{100}$ gram of atropin during the shock While in some cases the remainder of the injection can be given, by pausing for five or ten minutes, it has been recently my habit to stop the injection the moment symptoms begin to appear This reaction is undoubtedly the worst that patients have, and while it is usually of trivial significance, it may be of very serious nature In one case not in this series, breathing stopped entirely and artificial respiration was effectively resorted to Not infrequently urticarial eruptions appear within five to ten minutes That the nature of this strange reaction is anaphylactic there seems to be little question Many clinical observers have noted these symptoms, and Swift,[1] in a conclusive series of animal experiments, has demonstrated that the combination of guinea-pig serum and salvarsan produces a substance capable of sensitizing and then shocking the guinea-pig By the addition of salvarsan, the homologous serum developed the characteristics of a foreign protein

The other kinds of reactions finding place in Table 1 are very infrequent, gastro-intestinal upsets being the commonest Vomiting occurred in 2 7 and diarrhea in 1 1 per cent of the cases The former usually occurs within five or six hours after the injection, and is associated with the latter Because these gastro-intestinal upsets appear only in certain individuals, and following the administration of anything more than a small or limited dose, it has seemed to me that they were purely arsenical toxic effects

The other undesirable effects are so slight and infrequent as to make discussion of them unnecessary

DISCOMFORTS

Turning now to the discomforts incident to the intraspinal treatment with salvarsanized serum, we find a great array of reactions, as shown in Table 2 First of all, pain stands out definitely ahead of all others This pain varies in intensity from slight twinges to severe wracking pain which can be controlled only by morphin Fortunately this end of the scale numbers but few victims, but the middle degrees are felt by a great majority of the patients In a total of 355 injections there were 104 reactions of all sorts (26 4 per cent), of these, seventy-eight (19 1 per cent) were painful If the number of patients is considered rather than the number of injections, it is seen that 80 per cent have pain, not at every injection necessarily, but at some time during their course of treatment

TABLE 2—DISCOMFORTS INCIDENT TO THE INTRASPINAL TREATMENT WITH SALVARSAN SERUM

	Number	Per Cent
Total injections	355	
Total reactions	104	26 4
Pain in the legs	59	13 8
Headache	19	5 3
Odd sensations in the legs	5	1 4
Numbness in legs and perineum	5	1 4
Nausea	3	8
Vomiting	7	1 9
Coma	1	3
Vesicle paresis	1	3
Paraplegia	1	3
Increased ataxia	2	5
Sensations in head	1	3
Weakness	1	3
Psychic exaltation	1	3

The pain may occur at various periods in the whole procedure and in various parts of the body Occasionally a sharp lancinating pain is felt at the moment of puncture This pain shoots down one or both legs and often to the testicles It is momentary and is often spoken of by the patient as an electric shock Whatever the cause — possibly piercing a nerve fiber — it is not very frequent

The second type of painful reaction is that in which the pain begins during the time of inflow of serum It is occasionally felt in the sciatic region, occasionally at the site of puncture Rarely severe it lasts only a minute or two, and passes oft as insidiously as it began It has never been severe enough to cause the patient to urge that the treatment be suspended

The third type is perhaps as common as any, and consists of pain appearing within a few minutes after the serum has run in and the needle has been withdrawn This pain often is fairly severe, usually felt in the thighs, sometimes in the calves and feet If untreated it may last several minutes and disappear spontaneously, or it may linger for half an hour or longer Sometimes it comes and goes with more or less severity during the night following treatment The treatment of this type will be considered later

The fourth type differs from the preceding in that it occurs only in cases of painful tabes and consists in an exacerbation of the particular individual's special pains These stimulated pains may be very bothersome for several days after the treatment

---

[1] Swift H T Anaphylaxis to Salvarsan The Journal A M A *Oct 5 1912* p *1236* Intraspinal Therapy in Syphilis of the Central Nervous System ibid. July 17 1915 p 209

Dr. Robert Mellg Library

The fifth type is more serious, and a part of a general reaction of considerable severity In this group there is usually no pain at the time of the injection or following it for several hours Then the patient begins to feel chilly and uncomfortable, and there is general malaise and headache Soon a moderate temperature rises The headache is violent, and the pains in the back and legs often become intense Objectively the patient presents the picture of meningism The neck is stiff and Kernig's sign present in more or less completeness

In one of the three cases coma supervened The cerebrospinal fluid in this case and in one of the severe instances of Group 3 was examined within from six to eight hours after the serum injection Both fluids showed a slight serum discoloration and a great increase of cells, over 2,000 in one case and as high as 30,000 per cubic millimeter in the other These cells are not true polynuclears, but multilobed cells, probably of the class described by Pappenheim as the macrophagic clasmatocytes of Marchand, having their origin in the tissues and not from the blood

The explanation of the cause of the pain in the different groups can be, of course, only hypnotic Two suggest themselves

1 Irritation, either chemical or physical, or both It has been thought that pain was less frequent when serum diluted with saline was used — say, a 40 or 50 per cent serum — than when pure 100 per cent serum was injected For the past two years only pure serum had been used in this series Before that time 40 or 50 per cent serum was given It does not seem to me that pain is any more noticeable now than in the previous period

Autosalvarsanized serum and serum prepared by Ogilvie's[2] method, provided not over 0 00025 gm is added, are equally irritating or nonirritating as the case may be Serum, however, to which mercury has been added by Byrne's[3] method, seems to have been more irritating than the salvarsanized preparation This statement must be taken with reservation though, because the number of mercurialized injections in this series is small

2 The other suggestion for explaining the very severe reactions is that they are anaphylactic in nature If the demonstration be true that salvarsanized guinea-pig serum behaves as a foreign protein to that animal, it is quite possible that the same thing may be true of man Furthermore, Gay,[4] Besredka[5] and others have demonstrated that animals may be both sensitized and shocked by the subdural route

Recently the plan to provide a stock mercurialized horse serum has been brought forward, the idea being to give the physician a convenient serum preparation for intraspinal injection The undesirability of such a serum is obvious It has been shown that even a homologous serum can be rendered as dangerous as a foreign protein by the addition of salvarsan (Swift[1]), and on this basis some of the rare and severe reactions following intraspinal injection with salvarsanized human serum have been explained as anaphylactic in nature Furthermore, there is another aspect of the problem which suggests itself Longcope[6] showed that repeated injections of foreign protein, which produced successive sublethal anaphylactic shocks, caused definite tissue change in heart and kidneys In view of these facts, the wisdom of repeated intraspinal injections of foreign serum should be gravely questioned

That the cause of the pain and general reaction is a transient one, at least so far as visible lesions of the membrane and cord are concerned, is demonstrated by the one opportunity presented at necropsy to view the spinal canal The patient had received forty-one intraspinal injections of 100 per cent serum in twenty-six months The outer surfaces of the cord and membranes were smooth, pale and glistening as normal throughout their entire length The microscopic sections of the cord are not yet ready for inspection

In most cases the pain is so transient and light that no treatment is needed When the pains following the injection immediately (Group 3) are severe, deep muscular massage of thighs and calves relieves it magically The specialized pains (Group 4) in painful tabetics are best controlled by heat to the lumbar spine and along the course of pain, and by the administration of phenacetin, pyramidon, and caffein and codein Very rarely morphin is needed

In the extremely rare cases, puncture may be necessary to relieve the pain

In Table 2, "odd sensations in the legs" refers to certain sensations described vaguely by a few patients These sensations do not amount to pain, but are sufficiently uncomfortable to attract the subject's attention The next group, "numbness in legs and perineum," is a perfectly definite sequel to introducing directly too much salvarsan or neosalvarsan Several French observers reported that they had seen this curious numbness usually associated with retention of urine The symptoms persist for a long period of time, and in two or three cases appear to be permanent

It is obvious, therefore, that the intravenous-intraspinal method of treatment is not devoid of difficulties for the patient But perhaps a fair criterion of the real importance of the distressing features of the method is the willingness of the patients to subject themselves repeatedly, over a long period of time, to the intraspinal injections In only a few instances has it been evident that the patients dreaded the treatment With very many cases there is practically no discomfort worth recording, but in a fair proportion the treatment is distinctly of a heroic nature

BENEFITS FROM THE TREATMENT

When we come to consider how much good the patients derive from the intensive treatment under discussion, it is necessary to determine some state of being which can be looked on as a goal worth reaching Working capacity, or the individual's economic value to the community, is undoubtedly the severest test to which human beings are put By their response to this trial they succeed or fail in the struggle of life The question arises, therefore, How well have these patients been helped to return part way or wholly to their level of usefulness?

At the outset, in the various forms of cerebrospinal syphilis, we are faced with two symptom-producing and incapacitating factors In the first place, most of the cases have been of long standing so that some degree of destruction of nerve tissue may be assumed Secondly, there is a factor of the presence in the tissue of the active spirochete and its toxins Obviously, symptoms due to the former cause are not remediable by chemo-serotherapy, though exercise and reeducation of muscle groups may help considerably But it appears that, even in cases of long standing, there is often a large factor of active syphilis If this be removed by adequate treatment, there is frequently surprisingly little disability left which is dependent on chronic change Perhaps the shortest and clearest way to demonstrate what has been done with these thirty-eight cases is to present the results in a small table, as Table 3

---

[2] Ogilvie, H S The Intraspinal Treatment of Syphilis of the Central Nervous System with Salvarsanized Serum of Standard Strength The Journal A M A Nov 28 1914 p 1936

[3] Byrne, C M The Intradural Administration of Mercurialized Serum in the Treatment of Cerebrospinal Syphilis, The Journal A M A, Dec 19, 1914, p 2182

[4] Gay, Southard and Fitzgerald Jour Exper Med, 1909, xxi, 21

[5] Besredka and Lissofsky Compt rend Soc de Biol, 1910, lxviii

[6] Longcope W T The Effect of Repeated Injections of Foreign Protein on the Heart Muscle, Arch Int Med June, 1915 p 1079

The loss of working capacity depends in the different types on various factors In those cases with cerebral involvement in which the symptoms are psychic disturbances, the individual may become useless in his work most insidiously Several patients have told me of lack of concentration or especially of lack of power to make decisions In the latter instance a man goes on from time to time putting aside decisions, often making elaborate explanations in his own mind why the point at issue had better be postponed temporarily At first this procrastination of decisive mental effort passes unnoticed by the office force, but gradually becomes not merely apparent but also embarrassing to the patient's co-workers So his usefulness is little by little undermined until one day he finds that he cannot even do the routine and becomes almost dazed Such cases are frequent, there are three or four in this series

TABLE 3 —RESULTS OF TREATMENT IN THIRTY EIGHT CASES

Condition	Before Treatment	After Treatment*
Useless	26	6†
Working part time or suffering	11	8
Working full time	1	22

* Two died

† Two optic atrophy two paretics (hopeless) one paraplegia (improving) one cystic glioma (dead)

Usually associated with the increasing specific debility in work, as just described, there is a general nervous state, perhaps best called neurasthenia The patients are anxious, apprehensive and often say "they are just nervous all the time" As they have become aware of their specific inability to work at a time when this general nervousness is at its height, it is extremely difficult to restore confidence in returning specialized powers Their nervousness occupies their entire attention, so that they put off by every possible excuse the day of returning to their special occupations Clearing up the syphilitic process brings back the lost powers of concentration and decision, but the neurasthenic habit of postponement of mental effort must be broken by other means Encouragement, reeducation and mental and physical calisthenics are the main forces in the hands of the physician But more important perhaps than all is to require the patient to do some work, no matter what, during the period of treatment The intervals during the injections are long, and for the patient conducive of introspection Many patients can go back to work on part time Usually a word to the employer or to the office force makes this easy of accomplishment Four such patients have been able to go back effectively to their work One of these has since died of cerebral hemorrhage

The true paretic whatever that be, is apparently not helped by the treatment Two of the four patients, however, when first seen were classical pictures of paresis If this condition is not true paresis, the difference must be one of degree, and perhaps the only way to differentiate them is by their response to treatment One case of this type tends to relapse when untreated for three or four months, as though it occupied a middle position between the cases which clear up rapidly and the unimproved hopeless cases

The locomotor ataxia group become useless in their business, either through pain or inability to walk Either of these is a much more definite and obvious cause than the others have described

Degrees of pain which are incapacitating are different with each individual, so that some patients are able and willing to go back to work sooner than others Ataxia patients in whom the ataxia is of long standing improve less than when the onset is sudden, as a rule The skill and assiduity with which a patient practices his exercises is a distinct factor in determining how soon and to what extent he can return to his work The self-consciousness and embarrassment of the tabetic also is often a very potent cause of his failure to return to his occupation

TABLE 4 —DURATION AND AMOUNT OF TREATMENT

Case	Months	Intravenous	Intraspinal	Working Capacity		Biologic Tests	Shock Intravenous	Pain Intraspinal
				Before	After			
14	20	14	9	0	W	C—	0	+
40	4	10	0	W	W	C	+	0
211	2½	6	0	0	0	C—	+	0
126	10	9	9	P	W	C—	0	+
17	6	18	9	0	P	C—	0	+
103	9	29	2	0	W	C	+	+
198	5½	14	5	P	P*	C—	0	+
93	15	33	8	0	W	C—	+	+
94	13	22	4	0	W	C	+	+
89	9	21	11	0	P*	C—	+	+
21	2	5	2	0	0	+	+	+
105	9	24	0	0	W	C	+	0
151	7	28	13	P	W	C	0	+
76	17	44	8	0	W	C	0	+
95	18	41	7	0	W	C	+	+
96	9	19	7	0	0	C	0	0†
194	17	21	8	0	W	C	0	+
208	3	10	2	P	W	C—	+	+
140	4	17	8	0	W	C—	0	+
183	5	23	10	P	W	C—	0	+
91	13	19	2	P	W	C—	+	0
90	16	31	19	0	P	C—	+	+
26	10	34	10	0	0	C—	0	+
44	3	7	7	0	0	+	0	+
22	19	39	19	P	W	C	+	0
143	7	17	6	0	P	C—	+	+
168	6	20	8	P	W	C	+	+
16	19	33	0	P	W	C—	0	0
199	2	6	3	P	W	C—	0	+
163	6	25	13	0	P	C	+	+
18	12	16	14	0	W	C—	+	+
12	21	62	24	0	P	C	+	0
25	28	49	18	0	W	C	+	0
129	2½	7	7	0	0	C—	+	0
24	20	77	41	0	0 *	C	+	+
102	27	48	38	0	W	C—	0	+ ‡
66	10	22	11	0	P*	C	+	0
201	7	20	10	0	0	+	0	0

* Died

† Severe spinal shock with coma no pain at any other injection

‡ Since going to press this patient suddenly became ineffective at his work and has rapidly deteriorated in the course of two or three weeks into a condition of advanced bedridden general paresis

W full time work P part time work C all tests clear, C— all tests almost clear

In Table 4 is set forth a complete statement of the length of time and the amount of treatment these cases have received In parallel columns are indicated the treatment distress and result It is clear that improvement bears direct relation to the length and intensity of the treatment When much treatment has been given without the usual improvement there is some other obstructive factor (as optic atrophy, morphinism, or glioma)

SUMMARY

The purpose of the paper has been to show the number and severity of undesirable reactions to treatment, on the one hand, and the results in terms of working capacity, on the other

The severest reaction to intravenous injections is of the anaphylactic type The most frequent reaction to the intraspinal injections is pain The severest is an aseptic meningitis which may be anaphylactic in origin

Twenty-six patients out of a total of thirty-eight were economically useless before treatment After treatment twenty-two were back on full-time work Rapidity and degree of improvement depend directly on the intensity of treatment It is important to keep patients at work during the months of treatment

116 East Sixty-Third Street

INTRASPINAL ADMINISTRATION OF MERCURIALIZED SERUM

IN THE TREATMENT OF SYPHILIS OF THE NERVOUS SYSTEM *

EDWARD LIVINGSTON HUNT, M D
Assistant Professor of Clinical Neurology, Columbia University, College of Physicians and Surgeons
NEW YORK

The object of this paper is to call attention to some of the work which we are doing in neurology at the City Hospital, it is not an effort to introduce a new therapeutic measure or disparage an old one Rather, it is a record of work done The war has made salvarsan so difficult to obtain, and its price so prohibitive, that we have been obliged to seek other means in the treatment of syphilis of the nervous system Accordingly, last summer we tried the intraspinal administration of mercury This paper is a recital of the treatment, and a record of the results Such a paper can be, to my way of thinking, only in the nature of a preliminary report, for several years must elapse, and hundreds of cases must be treated and observed, before conclusions can be reached that are definite and of value A great deal of credit for this work is due Dr Blake F Donaldson, who at the time was my house physician at the City Hospital, and who carried out the details and the technic

Irrigation of the spinal canal with 1 30,000 mercuric chlorid solution has already been practiced as a postoperative measure Ravaut, in 1913, in one of the Paris journals, reported the injection of mercurial salts into the dural space for cerebrospinal syphilis, and only a year and a half ago, Byrnes of Johns Hopkins reported the results of thirty-two cases of cerebrospinal syphilis treated by the intradural administration of mercurialized serum[1]

The cases which I report are forty-five in number The patients were all treated in my service in the wards of the City Hospital on Blackwell's Island Forty were given intraspinal injections of mercuric chlorid, and five were given sublamin injections, so that in all there were given 100 injections of mercuric chlorid and thirty-three injections of sublamin (ethylendiamin-mercury sulphate) These patients at the same time were given every week intramuscular injections of mercuric salicylate, and in the very early ones intravenous injections of salvarsan

The cases treated comprised cases of tabes, general paresis, cerebrospinal syphilis, taboparesis, clinical tabes (that is, tabes with a negative serology) and syphilitic hemiplegia

The treatment was given in all except five cases as follows

About 50 c c of blood were obtained readily from the patient's arm with a needle of large caliber, and collected in a sterile cylinder, *preferably*, four hours after an intravenous injection of salvarsan The blood was slanted, the clot separated, and then left over night in the ice-box The next morning a sterile centrifuge tube (containing about 13 c c) was readily filled with clear serum, and was then centrifuged for five minutes A few red blood cells were collected at the bottom of the tube and the supernatant fluid poured (sterilely) into a sterile, freshly washed cylinder To this one-fiftieth grain of mercuric chlorid was added It was prepared as follows

One gm of Merck's mercuric chlorid was weighed out carefully, and added to a liter of sterile distilled water, which was then brought to the boiling point (when the mercuric chlorid would completely dissolve) Of this solution 1 3 c c contains approximately one-fiftieth grain of mercuric chlorid

The mixture was then added up to 30 c c with sterile saline, and inactivated for half an hour at 58 C It was then injected within an hour The injection was given with the patient lying on his side A 30-c c syringe was used, and the fluid run in practically by gravity alone The foot of the bed was elevated for one hour after the injection, and phenacetin was used liberally for pain

In the other five cases mentioned above the mercuric chlorid solution was mixed directly with about 20 c c. of spinal fluid, and the whole immediately injected In three of these cases the reaction seemed more severe than usual, the cell count was in two cases increased markedly after two weeks This technic, though much easier, does not seem in the exceedingly limited number of cases to be as good as the other

The ten patients with general paresis treated showed less improvement than almost any of the others One half of them, five, showed no change, two became worse In only three cases was there any marked improvement These three patients evinced increased strength and diminished tremor In none were there any reflex changes, but in four of the ten both the cell count and the globulin were diminished

Of the eighteen patients with typical tabes dorsalis, only four showed no improvement The remaining fourteen in every instance were helped One patient showed marked improvement in his general condition, but little change in his reflexes Nine showed marked subjective improvement with complete freedom from pain Two of these eighteen died, but as they were moribund when admitted and were treated really as a last resort, it is not fair to record them in the judgments of this form of treatment So far as serology was concerned, in these eighteen cases, eight, that is, almost 50 per cent , showed a distinct reduction in both globulin and cell count The improvement in these cases was one in which there was evidence of gain in weight and in strength, a cessation of pain, a regaining of bladder control, and an improvement in the spinal fluid content

There were three cases of cerebrospinal syphilis One patient showed no improvement whatever, the remaining two showed marked reduction in the cell count, and one, a Chinaman, gave very marked evidences of both objective and subjective improvement At the beginning of the treatment, he was bedridden, greatly emaciated, incontinent, and apparently dying His mental condition was one of confusion and dementia From the very beginning he began to improve, holding his improvement, and steadily and persistently adding to it so that at the end of two months he was up and working in the ward

---

* Read before the Section on Medicine, New York Academy of Medicine, Nov 16, 1915

Five patients with taboparesis were treated Two of these showed no improvement and no change Of the remaining three, two showed a marked change both objectively and subjectively The reflexes, as in all of these cases, remained stationary In two of the five there was a reduction in the cell count and in the globulin

In the five cases of clinical tabes with negative serology, the cell count was low throughout, and therefore of course no change was manifest in the cell count and globulin Of these five patients two showed slight subjective improvement, and two remained stationary One improved a very great deal She showed marked improvement regaining the use of her legs and control of her bladder

There were four cases of syphilitic hemiplegia Improvement was evident in two One case remained stationary, one patient died at the end of twelve days with exaggerated dementia, and an aortic leak which decompensated In one case the cell count was reduced The two patients who improved did so objectively, that is, the improvement which one would normally expect in a paralytic was hastened and possibly augmented

A general summary then of the forty-five cases treated would give the following results Six patients showed marked objective improvement as regards the general conditions, nine showed marked subjective improvement twelve showed some improvement subjective, but it was slight, thirteen showed no improvement, two became worse, three died

In seventeen of the cases there was a well marked reduction in the cell count and in the globulin, the Wassermann reaction not being readily changed

The following cases seven in all, I have been able to follow from the beginning to the present moment I can, therefore, go into detail regarding them, and will give the accurate history of them, together with the physical and laboratory findings

REPORT OF CASES

Case 1—M G an Irish housewife, aged 56 who entered the hospital March 10, 1915, and whose chief complaint was severe shooting pains in the legs, had a negative family history, so far as tuberculosis cancer, syphilis and sanity were concerned She gave a fairly straightforward personal history, never having been pregnant, using beer in moderation, and positively denying syphilis Her present trouble began in September 1913 She first noticed a weakness and incoordination of her extremities together with shooting pains in the legs She had a little trouble in starting the urine, and occasionally had been bothered with diplopia At the time of admission she had had no antisyphilitic treatment The physical signs that this patient showed were equal but Argyll Robertson pupils, marked ataxia of both upper and lower extremities and absent knee jerks She was very ataxic that is, unable to stand without support There was no mental impairment there were no tremors, and there was no involvement of speech The case was one of tabes

A Wassermann test made on the blood, July 7 1914 ten months before admission was doubtful Sept 16 1914 it was weakly positive The laboratory reports made just before treatment was instituted were as follows

The lumbar puncture was made March 11, 1915 The blood was doubtful the spinal fluid was positive and there were 24 cells to the cubic millimeter On that day, the first intraspinal treatment of 0 0003 gm of salvarsan was given This was followed by a marked increase in the shooting pains, severe headache, and vomiting which lasted four days

March 25 another lumbar puncture was made, which showed a positive spinal fluid, and a cell count of 36 This was, as you see more than on the previous puncture and was in accordance with the increase in the pains the headache and the vomiting On this day, an intraspinal dose of sublamin was given, the amount was 0 0013 gm Again a reaction followed but not so severe as on the preceding dose

May 25, another puncture was made The spinal fluid was still positive, the globulin was plus, and the cell count had dropped to 4 On this day, a dose of mercuric chlorid was given intraspinally, the amount being 0 0013 gm, this being followed by marked increase of pains which, however, lasted only twenty-four hours

October 25, another puncture was made This time the spinal fluid proved negative, the globulin was negative, and the cell count dropped to 3 To summarize, then the results of the treatment in the case of this patient, the first injection after a very severe reaction afforded marked relief Each injection was followed by a reaction in which the pains were worse but on each successive injection, the period of the reaction was shortened and finally, at the end of it, the patient experienced considerable relief The physical examination showed no change in its findings throughout the entire time The cell count and the globulin became normal, and on October 25 the patient was fairly comfortable, in a weak general condition and with occasionally a few pains in the legs but not nearly so severe as before the treatment began This patient, in other words, showed excellent subjective improvement

Case 2—L G a German workman aged 50, whose chief complaint was shooting pains in his legs had a negative family history and his personal history showed only malaria and moderate beer drinking He admitted a specific infection of twenty-five years ago He had no remembrance of any secondary symptoms and probably had no treatment other than local His present trouble began eighteen months before admission, with a weakness in both legs This was followed by slight ataxia, difficulty in starting the urine and severe shooting pains in the legs The pains were intermittent, and became very violent The patient lost 40 pounds in weight On admission he showed irregular and equal pupils, the right Argyll Robertson His hearing was impaired in both ears, his knee jerks were absent, his gait was ataxic, and he had a Romberg The ataxia was quite marked in the legs, but there was very slight if any ataxia in the arms

March 10 the spinal fluid was doubtful the blood was doubtful, there were three cells, and the globulin was plus-minus On that day the patient received an intraspinal injection of mercuric chlorid, 0 0013 gm April 4 the spinal fluid was negative, the cell count 33, and the globulin was plus-minus On that day the second injection of mercuric chlorid was given of the same strength as the first Two weeks later April 20, the spinal fluid was negative the cell count 23 and the globulin plus-minus On that day another intraspinal injection of mercuric chlorid of the same strength was given This patient experienced marked relief from pain after the first treatment He gained about 10 pounds in weight, and said that he felt much stronger There was, however, no change in the physical signs and no improvement in the hearing vision or in the starting of the urine

September 28, the spinal fluid was negative, and the globulin was plus minus, but the cell count had dropped to 6 The patient had only occasional slight pains in the legs There was no progression of the other symptoms, but, on the other hand there was no improvement In other words, the treatment for some weeks increased the cell count, and then brought it back to where it was before The first treatment diminished the intensity and duration of the pains in the legs but gave no change in the reflexes, nor did it offer any objective improvement in the various symptoms of which the patient complained

Case 3—E W an American actor aged 48, whose chief complaint was shooting pains in the legs and ataxia with negative family history admitted specific history in 1892, followed by secondary symptoms He was treated for a short time by mouth He had smoked opium constantly for fifteen years, but stopped in 1911 of his own accord When the ataxia and shooting pains developed in 1912 he took three injections of salvarsan immediately, and a more or less continuous course of intramuscular mercury. On admission he showed contracted but equal pupils, regular, with a loss of reaction to the light; in other words, Argyll Robertson pupils. There was no impairment of either memory or mind. The knee jerks were absent. There was slight ataxia of the upper extremities, a marked Romberg, and the patient had to depend on a cane for walking. In this patient, six examinations were made of his spinal fluid, and he was given four intraspinal injections.

March 13, the spinal fluid was positive, with 23 cells, the globulin was one-plus. On that day he received an intraspinal injection of sublamin 0.0013 gm. March 24, his spinal fluid was positive, the globulin one-plus, the cell count 19. On that day he was given a second injection of sublamin of the same strength. April 13 the spinal fluid was positive, the globulin plus-minus, the cell count 12. May 5, 1915, the spinal fluid was positive, the globulin two-plus, the cell count 13. On that day he was given an intraspinal injection of mercuric chlorid, 0.0013 gm. On the 25th the spinal fluid was positive, the globulin plus-minus, the cell count 13. On that day he was given another intraspinal injection of mercuric chlorid, 0.0013 gm. September 17 the spinal fluid was positive, globulin plus-minus, the cell count 17. One week after the first injection the shooting pains in the legs cleared up to a marked degree and only a slight occasional twinge of pain remained. The patient gained in weight and strength, but there was no improvement in the gait. September 17, there was absolutely no objective change in the patient's physical condition. He had occasional slight shooting pains in the legs, and no improvement of gait, but showed only subjective improvement.

Case 4.—W. M., an Irish laborer, aged 51, whose chief complaint was shooting pains in the legs, and ataxia, admitted to moderate use of alcohol, but did not remember any specific infection. His family history was negative. His present trouble began in 1905 when he developed shooting pains in the legs, and ataxia. He came to the City Hospital in 1908, where he had been constantly treated with mercury and potassium iodid. He also had one dose of salvarsan in 1913. Since his treatment his pains and his ataxia have grown progressively worse. He has slight diplopia, otherwise his vision has not been affected. March 13, he had equal but contracted pupils, Argyll Robertson in character. There was no tremor of the tongue, but there was a slight coarse tremor of the face. He showed marked ataxia of both upper and lower extremities, with diminished elbow jerks, and absent knee jerks. His mental state was excellent. In January, 1911, his blood Wassermann was negative. Nov. 22, 1911, his spinal fluid was doubtful. Nov. 22, 1912, his blood Wassermann was still negative. Sept. 23, 1913, his first lumbar puncture was made, the spinal fluid was positive, the globulin was one-plus. There is no record of the cell count this time. July 4, 1914, his blood Wassermann was negative. The intraspinal treatment was started with this treatment, March 13, 1915. That day his spinal fluid was plus, globulin two-plus, cell count 29. He was given the intraspinal injection of sublamin of the usual strength, 0.0013 gm. This was followed by a reaction of violent headache, and increasing pains in the legs, which lasted for thirty-six hours. Two weeks later, March 24, his spinal fluid was positive, the globulin two-plus, the cell count 40. That day a second intraspinal injection was given, which was followed by a moderate reaction. April 13, 1915, the spinal fluid was positive, the globulin one-plus, the cell count 23. On that day a third intraspinal injection of sublamin was given. This third treatment almost entirely checked the pains, but made no change in the ataxia, or physical findings. September 20, the spinal fluid was still positive, the globulin plus-minus, the cell count dropped to 13. The patient had occasional slight pains in his legs with absolutely no objective change in his condition, save that he had gained in both appetite and weight. This patient then showed occasional subjective improvement over his previous condition.

Case 5.—R. B., an American housewife, aged 50, whose chief complaint was vomiting and rectal tenesmus, was not alcoholic, and denied any specific infection. She had been addicted to morphin for the past fifteen years. Her present trouble began in 1904. She developed shooting pains in the legs and abdomen together with a girdle pain. Seven years later, she began to experience a difficulty in walking, and was treated for neuritis. In 1907, she took a treatment for the morphin habit which, however, was a failure. This time she was so weak and unsteady that she could not walk. In 1912 she developed Charcot joint in the right knee. March 1, 1914 the patient was practically bedridden, and complained of rectal tenesmus, and shooting pains in the legs. The pupils were dilated and equal, and Argyll Robertson in character. Her hearing was affected. She had a slight ataxia of the upper extremities with absent knee jerks. She was very much emaciated. She had been treated with only small doses of potassium iodid. March 15, the intraspinal treatment with mercuric chlorid was instituted. Three intraspinal injections of $\frac{1}{150}$ gram of mercuric chlorid each, and six intramuscular injections of 1 grain of mercuric salicylate, were given. This treatment covered a period of a little over two months, from March 6 to May 25, and produced the following changes in the serology.

The spinal fluid, from being positive, with globulin of one-plus, and a cell count of 80 on March 6, 1914, changed to a negative spinal fluid, with a globulin of plus-minus, and a cell count of 7, Sept. 10, 1915. In this patient each intraspinal injection caused a severe reaction of forty-eight hours' duration, with a marked increase in both the rectal pain and the shooting pains in the legs. The first injection decreased the severity of the pains very much. The second stopped them absolutely, for a period of two months, the slight recurrences noted were checked by similar intraspinal treatment.

Oct. 6, 1915, the patient changed to the following conditions. She was sitting comfortably about the ward. She had occasionally a few slight pains in the legs, largely attributed to her Charcot joint, she had gained a little in weight, and felt improved by her treatment, particularly as regards the rectal crises. Apart from her general condition there is no objective improvement to be noted. Her pupils are still fixed, her hearing is still unchanged, her knee jerks entirely lost, her mentality is excellent, and she has now very slight rectal disturbances. She has very marked subjective, but no objective improvement.

Case 6.—L. C., a Chinese laundryman, aged 49, whose complaints were weakness, incontinence, headache, and pains in the legs, had an unreliable history, as he spoke a limited amount of English. At the time of admission, he was lying in bed, very markedly emaciated, confused, and very stupid. The pupils exhibited the Argyll Robertson phenomenon. There was a slight tremor of the tongue, and over the sacrum there was a large bed sore. The knee and Achilles jerks were both absent. There was marked incoordination of the lower extremities.

March 13, the intraspinal treatment was begun. On that day the patient was given sublamin. On the 27th another intraspinal injection of sublamin was given. April 16, the third injection was given, which consisted this time of one-fiftieth grain of mercuric chlorid. May 5, the fourth intraspinal injection, consisting of one-fiftieth grain of mercuric chlorid, was given. This treatment, then, covered a period from March 13 to May 5, and consisted of four intraspinal injections, two of sublamin and two of mercuric chlorid. They produced the following changes in the serology and condition of the patient. The spinal fluid from being doubtful with a one-plus globulin, and a cell count of 14, March 13, changed first to a negative spinal fluid, with a cell count of 21, and a globulin one-plus, and finally, May 5, to a positive spinal fluid with a one-plus globulin, and 6 cells. The patient's improvement was very marked. He got up, walked around the ward, gained 20 pounds in weight, his weakness disappeared, he regained the control over his sphincters, and the shooting pains in his legs and the headaches disappeared. In short, at the end of this treatment, he once more seemed like a normal Chinaman, and insisted on going home. He did what we would expect a normal Chinaman to do: he disappeared in the region of Mott Street.

Case 7—M V an Austrian housewife aged 32, whose chief complaint was great nervousness ataxia, shooting pains in the legs, and great difficulty in walking, on admission was weak responded slowly to questions in a monotonous tone and was disoriented as to time and place, with an impaired memory for recent events The knee and Achilles jerks were both absent and she had a Romberg a gait which was markedly ataxic, and some impairment of speech The provisional diagnosis of the case was one of taboparesis Her treatment was begun March 13 1915 on which day she was given an intraspinal injection of sublamin This was followed by a marked increase of shooting pains in the legs for twelve hours and then of considerable improvement She began to answer questions more readily and walk unassisted

On the 27th she was given an intravenous dose of salvarsan Following this she was much worse vomiting and becoming very weak and completely disoriented A week later she was given another intraspinal injection of sublamin May 3, she was given one-fiftieth grain of mercuric chlorid intraspinally, and on the 19th another one-fiftieth grain intraspinally Following this her mental condition became brighter she was able to walk better, and there was considerable improvement in her general strength She gained 15 pounds, and became a willing and useful worker around the ward Her memory became much better

The spinal fluid remained positive throughout The blood Wassermann remained positive throughout The globulin changed from two-plus to one-plus and the cell count was lowered from 36 to 4 There was no change in the reflexes The only point to be brought out in this case is that the intravenous injections of salvarsan given in the course of the treatment, seem to be very damaging

I fully realize the shortcomings of this paper Forty-five cases are not a large enough number, nor is six months a sufficient period of time to allow of drawing definite conclusions It is difficult to hold on to patients, it is especially difficult to hold on to syphilitic patients

CONCLUSIONS

1 The reaction from mercuric chlorid or sublamin in no way differed from the reaction which followed the administration of salvarsan

2 The sublamin did not seem to give the same reduction in the cell count or clinical improvement as did the mercuric chlorid

3 No ill results followed these injections The three deaths could be easily accounted for, as the patients were practically moribund at the time of the treatment, and were given the injections as a last resort

4 The patients with tabes and cerebrospinal syphilis were helped more than any others

5 Such improvement as did occur was evident in the feelings of the patient, in the sphincter control, in the pains, in the gait, and in the serology There was no improvement in the reflexes

6 Such intraspinal treatment can be given only at intervals of two weeks, because a cell count does not fall sooner

7 The reaction obtained was one in which the cell count was first greatly increased, and then diminished

8 The cell count and the globulin yielded much sooner than did the Wassermann

41 East Sixty-Third Street

Responsibility of the State—The health of the individual is an affair of the state since his dependency wilful or otherwise becomes a burden on the state, directly or indirectly —*Ohio Public Health Journal*

SELECTIVE SENSORY REGENERATION IN AN ULNAR NERVE LESION *

ISADOR H CORIAT, M D
First Assistant Visiting Physician for Diseases of the Nervous System,
Boston City Hospital Instructor in Neurology,
Tufts College Medical School
BOSTON

From the standpoint of pure physiology, the painstaking observations of von Frey and Goldscheider have demonstrated the independence of the nerve supply of the skin for special sensations More recently the exact experimental work of Head and Sherren has amply confirmed this point of view with abundant clinical evidence in peripheral nerve lesions and in cases of nerve regeneration They have shown that the afferent fibers in the peripheral nerve may be divided into three systems, that is, the specific receptors for protopathic and epicritic sensation, and those which subserve deep sensibility The nerve fibers and end organs of these systems are independent units and endow the skin with specific receptors for touch, pain, temperature, localization and deep sensibility These systems can be distinguished by the nervous impulses set free through stimulation of the end organs in the skin

Thus it has been agreed by physiologists and through clinical analysis, that the sensory functions of the skin are based on certain fundamental and independent qualities, and that these act as somatic receptors for the various tracts of the afferent nervous system The skin as a tissue offers an ideal medium for the testing of such independent sensory qualities, since in it the fibers representing the peripheral prolongations of the spinal ganglion cells lose their myelin sheaths before entering the epithelium These independent sensory receptors can best be demonstrated during the process of nerve regeneration, but that they are present and may also be elicited in the normal skin, is shown by an observation of Barker[1] Here in an area of disturbed sensation on his own arm, it was found that the sensations for cold, warmth, pressure and touch were absent, while the sensation for pain was intact although there could be demonstrated a slight diminution in the number of pain points This condition, in which only certain of the functions of the peripheral sensory nerves were abolished, was termed elective sensory paralysis Similar modifications in elective sensory change were later demonstrated by Henry Head[2] in his auto-observations on nerve division As a result of these experiments it was concluded that the skin was supplied by two anatomically distinct peripheral systems, which regenerated at different periods

A somewhat analogous condition of selective sensory change was found in a case of complete severance of the ulnar nerve with a secondary suture The case is reported because it offers admirable evidence of the independence of the sensory nerve endings of the skin as demonstrated during regeneration of the ulnar nerve The patient was accidentally cut with glass on the left wrist, completely severing the ulnar nerve After about two months the nerve was sutured An examination six months later disclosed the following conditions The ulnar side of the left hand is the seat of severe tingling and at times of pain It is decidedly hyperalgesic to various stimuli, such as rubbing, touching, etc The little and ring fingers are glossy and mottled, but without any affection of the nails All the muscles innervated by the ulnar nerve are weak and atrophied There is wasting of the interossei, the adductor pollicis, the hypothenar group, the lumbricales and of the flexor digitorum profundus The atrophied muscles show no reaction to the faradic current The reaction to the galvanic current is slow and with polar inversion (AnCC > CaCC) The area of ulnar distribution is the seat of marked sensory disturbance which on more detailed examination revealed the following condition

---

* From the Neurological Department of the Boston City Hospital

[1] Barker L F A Case of Circumscribed Unilateral and Elective Sensory Paralysis Jour Exper Med 1896 i 348

[2] Rivers W H R and Head Henry A Human Experiment in Nerve Division Brain 1908 xxxi 323

Epicritic Sensibility—There is complete anesthesia to cotton wool over the palmar surface of the ulnar distribution Over the dorsal surface, cotton wool produces slight tingling and pain In this same dorsal area, a camel's hair brush also produces slight tingling and pain, while the palmar surface is completely anesthetic to a camel's hair brush In tests for cutaneous localization by means of compass discrimination in the area of pure epicritic disturbance, the dull compass points 2 cm apart are felt as one stimulus, whereas in a similar area of the unaffected hand they are felt as two points In the anesthetic area, the pulling of hairs to a slight degree is painful

In this area of complete anesthesia, particularly in the intermediate zone which lies outside the painful area later described, these results were obtained with varying lengths of von Frey's hair esthesiometer

10 mm length—very painful "like a needle"
20 mm length—very painful
30 mm length—tingling without pain
40 mm length—faint sense of pressure without pain

With the needle esthesiometer, pain points on slight pressure could also be demonstrated in this area In contradistinction to the results obtained in the area of disturbed protopathic sensation, the pain points which could be elicited in this anesthetic (epicritic) area, were isolated and grouped in the middle of the palm and at the base of the ring finger In no other portion of the pure epicritic zone could pain points be demonstrated, thus showing an incomplete regeneration of an independent sensory system

Protopathic Sensibility—Within the area of complete anesthesia to cotton wool and camel's hair brush, there can be demonstrated on the palmar and dorsal surfaces of the ulnar region, an area which is very sensitive to pain This area is about 1 cm less in extent than the area of disturbed epicritic sensibility, and includes the entire little finger In this 1 cm area, there is a pure epicritic disturbance with the isolated pain points already described on the intermediate zone The sharp point of the needle esthesiometer in the area of disturbed protopathic sensibility, produces intense pain and occasionally a "cold feeling" Stimulation of certain points causes the painful sensation to irradiate over the entire ulnar distribution of the hand [3] The sensation to a warm tube is diminished, but a cool tube is described as very cold, "like a piece of ice" With von Frey's hair esthesiometer, stimulation with hair lengths of 10 mm and 20 mm is very painful, at 30 mm there is produced a sense of tingling, but no pain, at 40 mm length, there is a faint sensation of pressure without tingling or pain The results with this instrument were exactly the same as in the completely anesthetic area, except that the pain points were crowded closely together and could be demonstrated over the entire region Deep sensibility was intact on pressure with dull points and to the extreme length of the hair esthesiometer Here again there was an analogous condition to the anesthetic zone It seems, therefore, that the pain was produced by the stimulation of the pain points, while the deep sensibility was preserved by the intact muscle spindles In this area also, the compass test 2 cm apart is painful even on light touch, and invariably produces a sensation of one painful point, probably due to a fusion of the two sensations through physiologic irradiation

SUMMARY

To summarize briefly, during the process of nerve regeneration, isolated pain points could be demonstrated in a completely anesthetic area, while inside this area the pain points were so closely crowded together that they formed a zone of extreme hyperalgesia Deep sensibility was intact This condition proves that the specific receptors for pain were not only independent, but also were more capable of rapid regeneration than the specific receptors for touch

This case is interesting because it demonstrates the independence of the nerve supply of the skin from special sensations The specific receptors for touch (epicritic fibers) had completely disappeared and had not regenerated to the slightest extent, thus explaining the area of complete anesthesia On the contrary, the receptor organs for pain (protopathic system) were the seat of very active regeneration These end organs of pain could be demonstrated in groups in the area of complete anesthesia (the pure epicritic zone), thus proving that there is not only a difference of time in regeneration of nerve fibers, but these fibers regenerated separately because they were derived from independent afferent and receptor systems Each system had a different regenerative power and was undergoing a different regenerative process, as shown by the fact that the fibers for touch discrimination regenerated much more slowly than the fibers for pain

According to Head's[4] tables of the time necessary for regeneration, the recovery of epicritic sensation consumes a much longer period than the recovery of protopathic sensation This is due to the fact that the protopathic fibers are more primitive and are therefore the first to regenerate, and, as our case shows, they regenerate as an independent system, even in the midst of the area where the epicritic fibers have completely disappeared and have not begun to regenerate On the contrary, the epicritic fibers subserve a more refined discrimination, of a later evolutionary type and are therefore the last to regenerate, although, as our observation shows, the earlier regenerating protopathic fibers may be demonstrated in a zone in which the epicritic fibers have not regenerated to the slightest extent The epicritic receptors are the first to disappear in a complete severance of a nerve and the last to regenerate

In another case of suture of the radial nerve after a stab wound, the area for disturbed touch remained unchanged for months, whereas the area for disturbed pain sensations grew less and less Finally, this latter area became a mere point in the center of the unchanged zone of epicritic sensation, showing the independence of the sensory systems in regeneration, and also the independence of the specific peripheral receptors for both touch and pain In this case, too, the motility returned and the electrical reactions became normal, proving that the regeneration of the motor fibers and of the protopathic system proceeded more rapidly than the finer discrimination of the epicritic system

---

[3] Déjerine, questionably it would seem, is inclined to interpret the occurrence of irradiations and painful points during the process of nerve repair rather on the basis of neuroma formation in the peripheral stump, than as evidence of selective sensory regeneration

[4] Head, Henry, and Sherren, James The Consequences of Injury to the Peripheral Nerves of Man, Brain, 1905, xxviii 116

The preservation of deep sensibility in both the protopathic and pure epicritic zones is interesting It is demonstrated by the fact that dull points and the hair esthesiometer at 40 mm are able to produce a sense of pressure but are ineffective in producing pain, even over points where it was possible to evoke a painful stimulus with a shorter hair length It seems from this observation that the threshold value for deep sensibility is more delicate than for pain points Both are present, while in an identical area there is complete anesthesia for cotton wool Sherrington has shown that the deep sensibility is appreciated by the terminal receptors called muscle spindles These bodies are preserved even in atrophied muscles That they are independent sensory receptors is shown by two facts—first, that when the motor nerve fibers had undergone complete degeneration, as shown by the atrophy and the complete reaction of degeneration, these sensory structures remained unaffected, and second, this deep sensibility was preserved in an area of complete anesthesia The pulling of hairs stimulated the pain points in the pure epicritic zone, since the hair roots are intimately associated with the tactile organs of pain

The conclusion to be drawn from these observations is the independence of the nerve supply of the skin from specific afferent receptors The nerve endings for touch have disappeared and have not begun to regenerate, while the specific receptors for pain are in very active regeneration

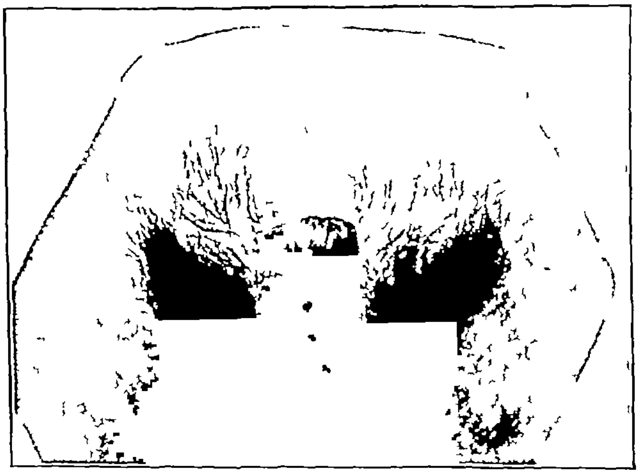


Fig 1—Exstrophy of bladder (Case 1) Below the umbilical scar the recti muscles are widely separated a fibrous layer between them covers in the abdominal cavity In the pubic region separated from the normal skin by a white line a rounded mass 4 5 by 6 cm, is seen its color varies from pale rose to dark red the surface is irregular or wrinkled granular in patches The parts are covered with slime and constantly wet with odorous urine. The ureters are seen opening on the surface of this mass between mucous folds The orifices discharge jets of urine at intervals Symphysis pubis is absent a fibrous band 1 25 by 6 cm, connects the pubic bones There is complete epispadias a shallow groove indicates the floor of the urethra the roof is wanting Testicles scrotum and anus are normal *There is no hernia* The prostate gland is palpable.

The exact type of the organs involved in the various sensory qualities is uncertain Von Frey has attempted to classify these end-organs according to the type of specific response, but no general agreement has been reached on his observations Theoretically, such an adjustment of different sensations on the skin with their differences of regeneration speaks strongly for the doctrine of specific energies of the nervous system

The condition is best termed a selective sensory regeneration In most cases of nerve suture the evidence for this type of regeneration is less marked than in the case studied, yet it occurs in all of them to a limited extent While examinations of this sort consume considerable time, yet they are of clinical value in that they furnish more absolute evidence of the actual process of nerve regeneration than the usual coarser methods of testing sensation

EXSTROPHY OF BLADDER

REPORT OF TWO CASES

JAMES T MOORHEAD, M D
AND
EDWARD L MOORHEAD, M D
CHICAGO

Exstrophy of the bladder occurs once in about 29,000 births Five males to one female are so afflicted That the male generative organs are more complex, that deficiencies in the anterior median line occur most frequently in the male, and that deficiencies in the posterior median line occur with more frequency in the female sex probably account for this difference

The mortality during infancy is 60 per cent

An exstrophied bladder may become carcinomatous A few cases have been reported

CAUSE

This congenital defect is best explained on a mechanical basis—an intra-uterine rupture of a completely formed bladder The first stage in the process is the closing up of the urethra, causing retention of urine The pubic bones, at this time scarcely cartilaginous, and still ununited, are kept apart until they become hardened At the same time the rectus muscles are kept apart, so that little by little, by the intravesical pressure of urine, the bladder presses against the abdominal wall and finally ruptures and forms adhesions to the borders of the split

THE MAYDL OPERATION

Since Maydl (1892) first successfully transplanted the vesical trigon in the sigmoid colon in a case of exstrophy of the bladder, this method—in some instances modified—was followed in 152 cases collected from the literature and the two cases now reported Of the total number, 129 were males (5 of adult age), 25 were females (7 of adult age) Forty-four died—a mortality of 28 5 per cent Deaths were attributed to pyelonephritis, 21, general peritonitis, 8, chloroform narcosis, 1, pneumonia, 3, hemorrhage, 1, pulmonary embolism, 2, other causes, 8

The functional results were good

The longest period of observation of patients was seven years

The originator of the technic reported ten cases—an unusually large number Twelve cases were contributed by seven American surgeons

CASE REPORTS

Case 1—H L., man, aged 20 years, whose family history was negative, had had no illness since childhood, and always lived on a farm, doing the usual work The disagreeable odor caused by decomposing urine prevented his attending school He could neither read nor write The extreme sensitiveness of the exposed bladder mucosa did not tolerate the wearing of trousers, and a dark colored loose fitting skirt reaching to just above the ankles was worn instead His gait was waddling A catheterized specimen of urine contained nothing pathologic

Surgical treatment of this patient during his earlier years, several times proposed to the parents, was rejected for various reasons A suicidal tendency of late prompted the desire to seek relief now

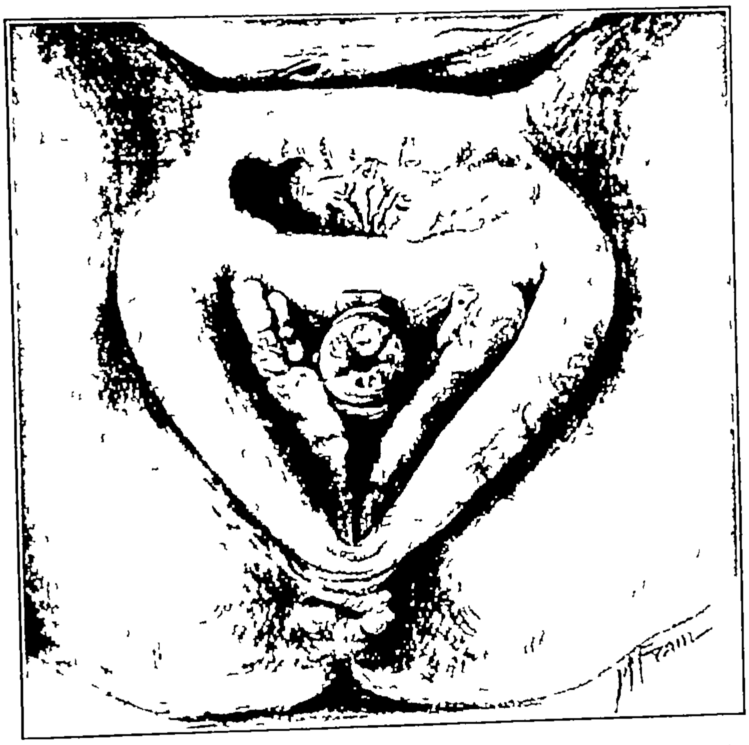


Fig 2—Exstrophy of bladder (Case 2) Diastasis of rectus muscles Above the vagina is seen the exstrophied bladder, 4 by 6 cm with ureteral openings, discharging urine intermittently, this trickles in sufficient quantity to keep the parts below always wet no symphysis pubis, the pubic bones are joined by a fibrous band, cleavage of clitoris and labia minora, hypertrophy of the latter The labia majora are sparsely covered with hair The cervix (eroded, enlarged and lacerated) protrudes beyond vulvar edge The result of injury to pelvic floor is apparent No palpable disease of adnexa

A modified Maydl operation was performed in two stages The abdomen was opened through the left rectus muscle, the sigmoid was delivered, the bowel was divided, both ends were closed, and a lateral anastomosis was made with needle and thread between the proximal and distal segments at the lowest point possible The plan was to use the pouch above the anastomotic opening—in the distal segment placed mediad —as a receptacle for urine Recovery was uneventful

Ten days later, catheters were placed in the ureters An incision was made following the line between the skin and bladder mucosa, a catgut ligature was applied 2 cm distal to the interureteric line, the mucosa and muscularis proximal to this was divided, and the tissue grasped with forceps, the bladder flap was dissected sufficiently loose to transplant without tension, there was considerable venous bleeding, which was controlled by hot sponges and a few ligatures, the vesical flap containing the trigon was trimmed to the proper size and wrapped in gauze The peritoneal cavity was opened in the midline, the sigmoid colon was brought up, a curved intestinal clamp was applied to the pouch, the trigonal flap (requiring a quarter turn) was apposed to the bowel, the intestine was opened longitudinally 3 5 cm, transplantation was made with a loop-on-mucosa suture, followed by Lembert stitches The cavity resulting from the dissection of the bladder flap was packed loosely with plain gauze The laparotomy wound—endeavoring to correct diastasis of muscles—was closed

The patient returned to bed in fair condition, on the second day he was much better He voided urine by rectum every four hours He did not vomit or complain of renal tenderness In short, the postoperative course was satisfactory until the seventh day, when a sudden change was noticed

He complained of precordial pain, his facial expression was anxious, breathing difficult, pulse rapid and weak, temperature elevated His condition became steadily worse, and he died within a few hours

A limited postmortem revealed a circumscribed peritonitis in the region of transplantation, there was no leak, the trigonal flap and the bowel wall were of good color, the ureters were normal, the kidneys were somewhat congested, there was no pus Venous thrombosis was apparent in the region examined

Considering the trauma to the large veins encountered in the dissection of the exstrophied bladder, and the clinical course, pulmonary embolism was probably the immediate cause of death

Case 2 is unique — the first instance, according to the literature, in which the patient was a mother

Case 2—Mrs R, aged 26 years, was the only member of her family to have a congenital deformity The greater part of her life was spent in rural districts She never attended school, and was unable to read or write Prior to her marriage she worked as a domestic To obtain employment was difficult, and her stay in one place was usually brief She had borne two children, one was living, aged 4 years, the other died when 4 months old While her condition was pitiable before she became a mother, childbearing, followed by prolapse of uterus and vagina, added much to her woe

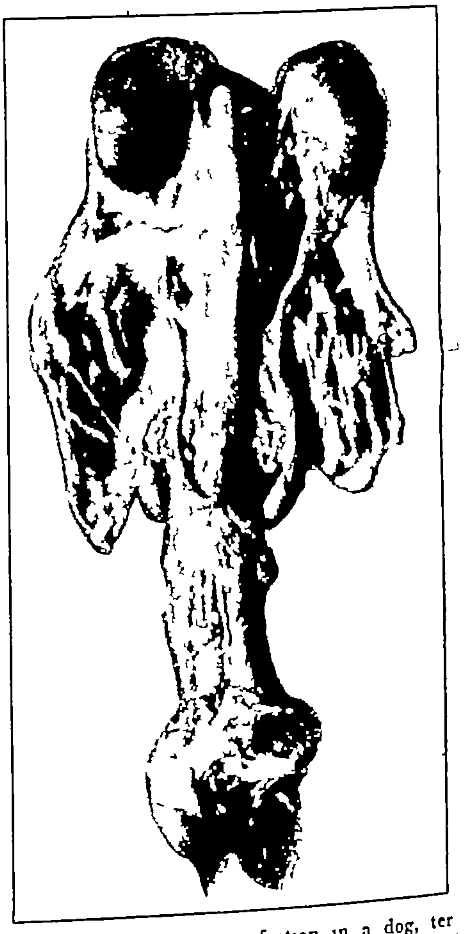


Fig 3—Ascending infection in a dog, terminating fatally in ten days The left ureter is dilated, and the left kidney contains pus No apparent change on the right side

At the first operation the cervix was amputated and the pelvic floor repaired Recovery was satisfactory

At the second operation (three weeks later) catheters were inserted in the ureters The exstrophied bladder was dissected subperitoneally to the requisite extent, and wrapped in gauze The peritoneal cavity was opened The uterus was amputated at the corporocervical junction The ovaries and tubes were preserved The ligaments were used in the best possible manner to anchor the stump The sigmoid colon was delivered and an intestinal clamp applied The bowel was incised in the long axis 3 5 cm The bladder was brought in apposition with the colon, no tension Anastomosis and closure of wound were similar to that previously described The anal sphincter was dilated and a rectal tube inserted

Following this operation there was a moderate degree of shock, from which the patient soon recovered She voided urine by rectum every three or four hours On the eighth day she vomited several times Gastric lavage was performed The patient left the hospital in five weeks, pleased with her condition Urine was now retained four hours during the day, and caused little discomfort at night

Subsequent observation during the past ten months, indicates a good functional result

ANIMAL EXPERIMENTATION

During the past three years, in a number of dogs, after removing the major portion of the urinary bladder, we have transplanted the vesical trigon in the colon Our early attempts were occasionally followed by fatal peritonitis or pyelonephritis Latterly, the results have been quite satisfactory An animal operated on twenty-six months previously manifested no sign of illness until the onset of a purulent infection of the right conjunctiva, extending to the meninges, resulted in death eight days later Postmortem revealed practically no change in kidneys or ureters

CONCLUSION

The result desired in the surgical treatment of exstrophy of the bladder — a reservoir for urine under control — is best attained by the method of Maydl or a modification of this procedure

Development of the technic on the lower animals is essential to success

6058 South Halsted Street—31 North State Street

PLASTIC OPERATIONS FOR ACQUIRED DEFORMITIES OF THE FACE*

J SHELTON HORSLEY MD
RICHMOND, VA

Plastic operations on the face are usually not life-saving procedures, but the curing of a facial deformity not only relieves the physical discomfort of the patient and assuages his mental anguish, but gives relief to the inhabitants of the community in which the patient lives The necessity for seeing daily some one with a hole in the frontal sinus, a retracted lip, or a deformed nose, is by no means an agreeable prospect So if a philanthropist be one who makes two blades of grass grow where one formerly grew, plastic surgery of the face may be considered a philanthropic field Surely it is of more importance to the community than the placing of monuments or the beautifying of streets

Surgery of the neck and plastic surgery of the face probably demand more skill than any other kind of surgery It is essential for one who operates on the neck to be a good operator and to know anatomy well Plastic work on the face demands some knowledge of anatomy and physiology, but particularly requires a kind of ingenuity to meet unusual conditions and to make things fit, which is not essential in most major surgical operations

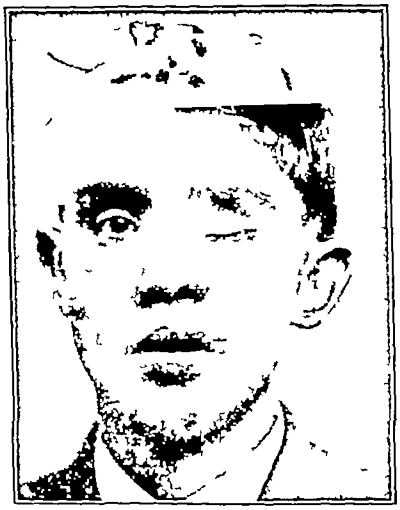


Fig 3 —Closure of left eye due partly to displacement of fractured bone to which inner canthus of the left eye is attached and partly to injury to the levator palpebrae

General considerations, such as the age and health of the patient, must be given due weight The age of the patient is of great importance, as flaps can be successfully transplanted with a smaller amount of nourishment in the young than in the old In the matter of dressing, dusting the wound with boric acid powder and leaving it open is all that is necessary If there is much oozing, a compress of dry gauze may be kept on for a few hours When any of the cavities of the face are involved in the wound, hexamethylenamin is administered before and after operation, as it tends to sterilize the secretions of the mouth and nose

While general principles can guide in plastic work on the face, each case is truly a law unto itself Though the same principles may be followed in a certain group of cases, no two of them will be done exactly alike For this reason a report on plastic surgery of the face, and particularly for acquired deformities, should deal largely with reports and illustrations of individual cases

Dividing the face into regions and taking them from above downward, we first have the deformities of the forehead I have had three cases which illustrate a very striking deformity following the loss of a portion of the anterior bony wall of the frontal sinus, all of them resulting from trauma In such instances it is necessary to find if the infundibulum, or communication between the frontal sinus and nose, is well open If so, the skin can be readily turned in with the epithelial side down, and the small amount of discharge together with the exfoliated epithelium can go through this communication to the nose If it is not sufficiently large, a curved probe is passed through the frontal sinus, the infundibulum, and out of the nose and by means of a string tied on the end of the probe a gauze strip is drawn through the infundibulum The gauze, when sawed back and forth, will increase the size of the opening to the desired caliber As the bone in this region is quite fragile, this procedure is better than any attempt to use metal instruments If the defect in the wall of the frontal sinus is large, two small skin flaps are outlined around the depressed margin with the base of the flaps at the margin of the opening Each external to the incision is undermined and the pericranium cut down to the bone at some distance from the incision into the skin The flaps are then elevated and turned into the opening with the epithelial surface inside, the pericranium being overlapped like a double-breasted coat This will fill even a large defect The skin to cover the raw surface is brought from the adjacent portions of the forehead, depending on the manner in which the scar tissue runs and on the tension (Figs 1 and 2) A vertical flap with the base over one eyebrow may be used, making the lines of incision when the flap is in position about parallel with the normal creases in the forehead In one instance in which the defect was not very large, I made a long transverse incision, mobilizing the skin of the forehead, and covered the flaps that had been inverted by sliding the whole forehead down. If the defect is large, however, or particularly if it extends more vertically than transversely, this cannot be done.

---

* Read before the Southern Surgical and Gynecological Association Cincinnati Dec 13, 1915

* On account of lack of space this article is abbreviated in The Journal by omission of some of the illustrations The complete article appears in the author's reprints A copy of the latter will be sent by the author on request

Deformities about the eyelid often fall into the hands of the eye specialist. A rather interesting case, however, came under my care in which the patient was severely injured by an explosion in a mine. The bones of the nose and upper part of the face were comminuted, and after healing had taken place it was found that there was a sagging down of the left eyelid, so that it was impossible for the patient to see with the left eye. An examination showed that the muscles of the eyeball were normal, but the inner canthus was considerably lower than the corresponding inner canthus of the right eye. The problem, then, was to raise the inner canthus of the left eye, and if this did not relieve entirely to shorten the upper lid. An incision was made along the bridge of the nose and through the left eyebrow. A piece of bone including the ascending portion of the superior maxilla, to which the inner canthus is attached, and a small portion of the lacrimal bone was found separated and displaced downward. It was loosened from its new position and replaced at its normal level. A hole was drilled in the nasal bone and in the fragment, and the fractured bone was fastened in position with kangaroo tendon. Healing was good, except that there was some discharge of pus opposite the kangaroo tendon. The scar was very satisfactory. This improved the condition, but still the lid could not be elevated enough, so under novocain, a transverse section of the upper lid, including skin and tarsal cartilage, was removed. The wound healed nicely and the patient now has use of the eye (Figs. 3, 4, 5 and 6).

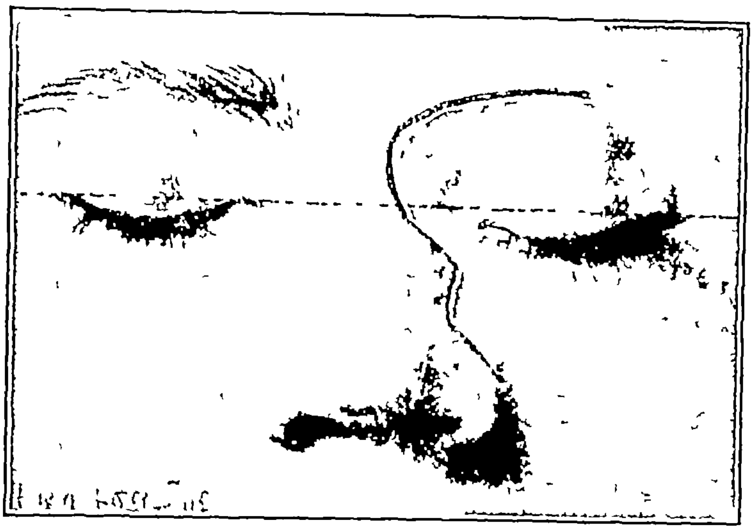


Fig. 4.—Drawing of patient shown in Figure 3. Note that the left inner canthus is lower than the right. The skin incision is shown.

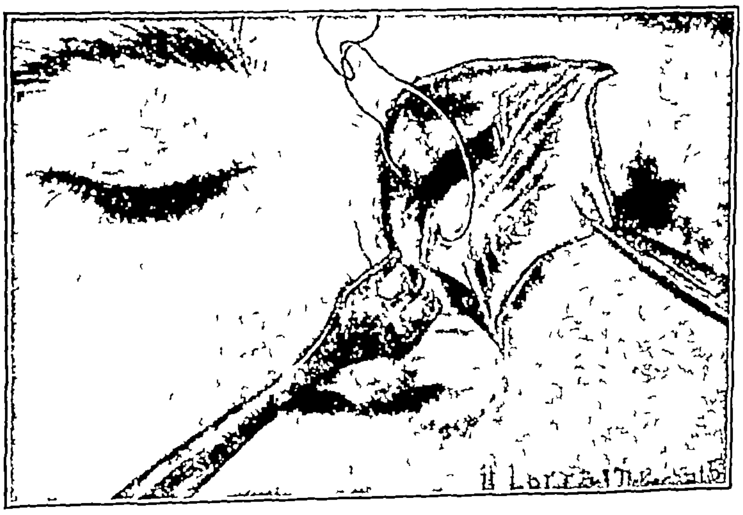


Fig. 5.—The misplaced bone has been loosened, holes have been drilled, and kangaroo tendon to hold fragment in position is about to be tied.

There are occasional instances in which injury is so extensive and so many portions of the face are involved that the case cannot be classified regionally. In one such case the skin for the eyelids was made by freeing the tarsal cartilage, suturing the lids together, and then transplanting a flap from the forearm, leaving it with a pedicle attached for about ten days. After this time, the pedicle was severed and in a few days the flap was split, making both an upper and a lower lid. If necessary, the method of transplanting a flap from the abdomen to the hand and then from the hand to the face can be used. In this case a number of operations were performed, the lips being made by a large flap from the upper arm which was split so as to form part of the upper lip as well as all of the external portion of the lower lip.

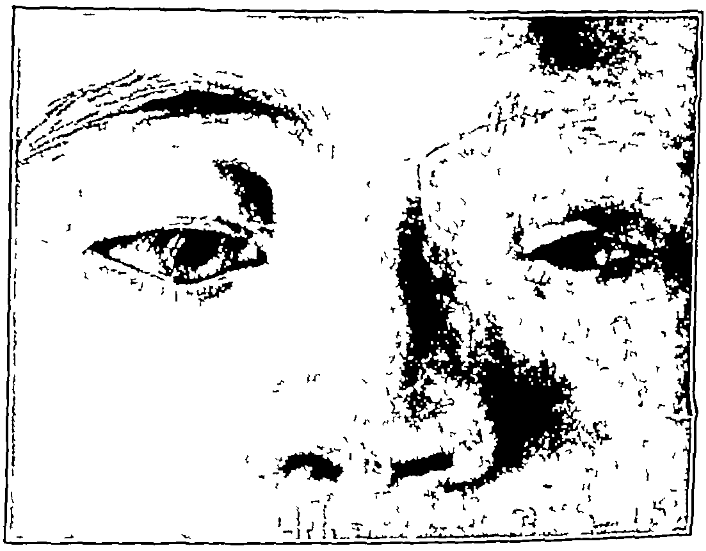


Fig. 6.—Result after both operations. Note the scar in the lid, where part of the lid was resected to take up the slack in the attachment of the levator palpebrae.

Defects of the cheek are sometimes difficult to close. When it is impossible to slide flaps from the margins of the opening without too much tension, a flap can be taken from the forehead by dissecting the attached anterior temporal artery and transplanting it beneath the skin. A lower eyelid was made by Monks[1] of Boston by undermining the skin between the region of the eyelid and the origin of the anterior temporal artery, dissecting a flap from the forehead with the anterior temporal artery attached, and carrying the flap and its artery under the undermined skin to its new position. For large defects, the method of transplanting the anterior temporal artery with a frontal flap seems peculiarly desirable. The artery should be dissected with considerable tissue around it and transplanted to its new bed by means of an incision that merely goes through the skin and not deep enough to sever the branches of the facial nerve. The skin, of course, should be undermined on each side so as to cover the artery without tension. The flap should be stabbed in several places to facilitate the oozing of blood The chief objection to this operation is that there is too much nutrition, and until a venous supply forms which will carry off the excess of arterial blood, there is danger of the artery pumping the flap so tight that thrombosis and gangrene will occur (Figs 7 and 8) If the defect involves the mucous membrane of the mouth, the inner raw surface can be lined with mucous membrane from the tongue, as suggested by Willard Bartlett, or a flap may be turned up from the neck with the epithelial surface inside

---

[1] Monks: Boston Med. and Surg. Jour., Oct. 20, 1898.

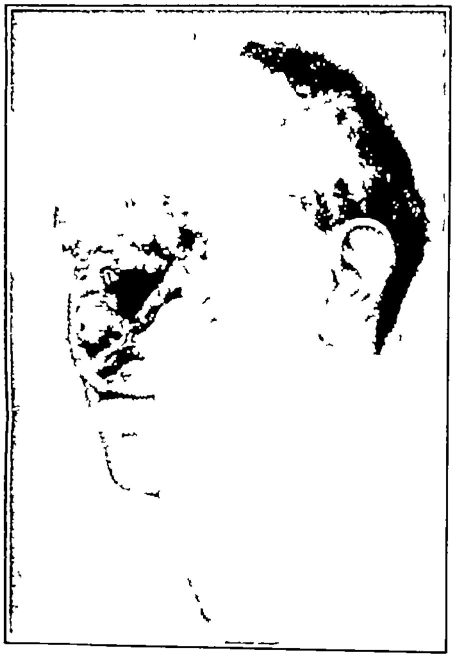


Fig 7—Defect in cheek resulting from wound with shotgun The opening is into the nasal cavity

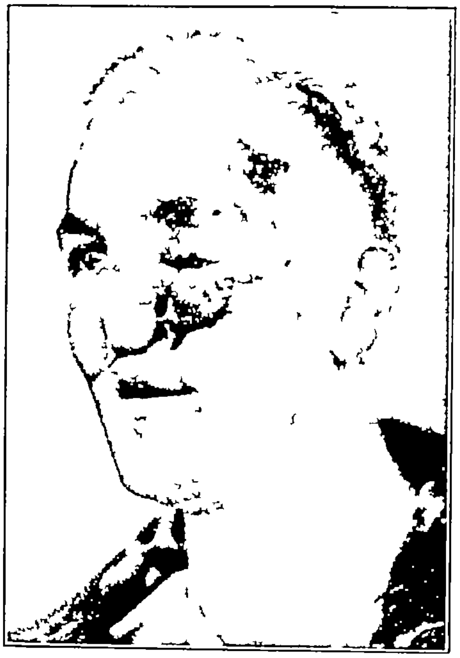


Fig 8—Appearance of patient shown in Figure 7 about two weeks after operation in which a frontal flap was transplanted with anterior temporal artery Note the scars where the anterior temporal was dissected and transplanted

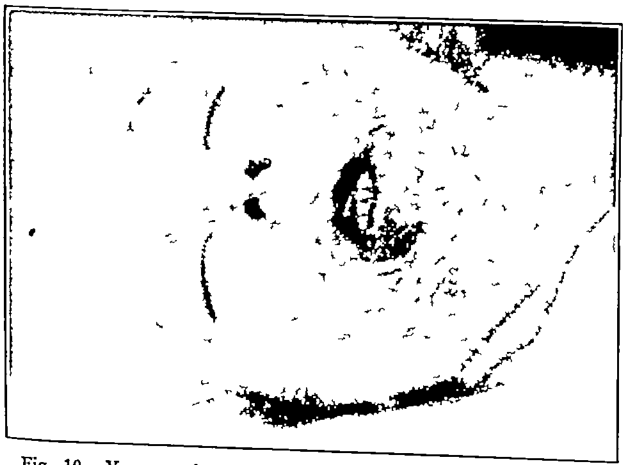


Fig 10—Young girl with deformity of lower lip from burn Note the eversion of mucous membrane Photograph was taken just before operation while the patient was under ether with rubber cap on her hair

Deformities of the nose are conspicuous and sometimes difficult to deal with on account of the inability to give the shape that cartilage would In one instance in which the nose completely collapsed because of traumatic destruction of the septum, I transplanted a piece of rib The rib was split and the half covered with periosteum was molded and inserted between the mucous membrane and the skin of the nose like a rafter, each end of which rested on a superior maxillary bone In a patient with a defect of the nose following a paste applied by some advertising cancer doctor, the ala was thoroughly freed and a flap was taken from the septum including mucous membrane and some cartilage

In order to lower the point of the nose, a section of cartilage was removed from the septum The flap was left attached to the septum near the tip of the nose, and was then brought up into the defect Thiersch skin grafts were applied to the raw surface They did not take except in one small place, but the healing was satisfactory After about two weeks the base of the flap was cut and pushed up on a level with the rest of the nose The nutrition of the flap was poor at its base (after being cut) and there was probably too much pressure from the gauze which was inserted within the nose to hold up the base of the flap

There is still a small opening at this point, which I think can be closed The septum is necessarily crooked, but the general appearance of the nose when viewed either from the full face or from the side is fairly satisfactory

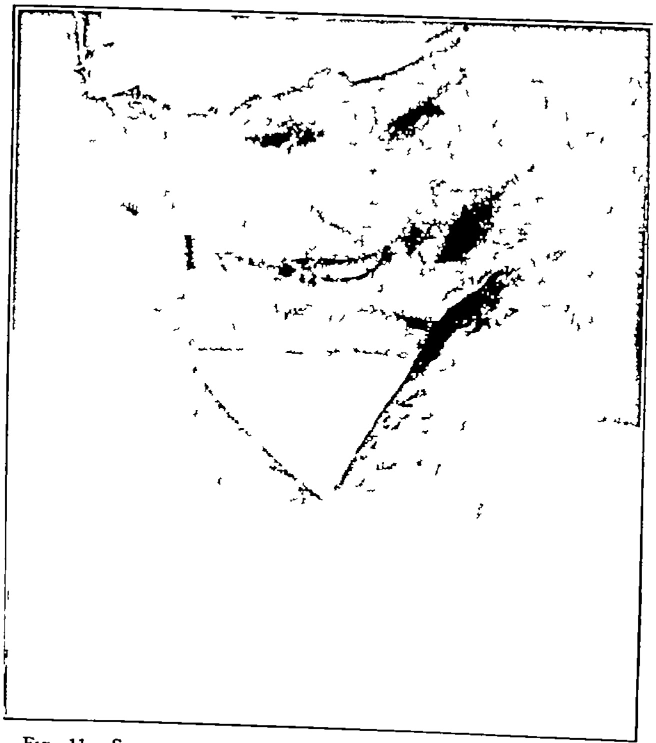


Fig 11—Same patient as shown in Figure 10 just before cutting the pedicle of the flap used to reconstruct the lower lip

I have had one patient, a Greek, with a very peculiar deformity of the lower jaw It was probably congenital in origin, though it increased greatly with his growth It was remedied by removal of the redundant bone down to the inferior dental canal, through an incision about an inch below the jaw

Deformities of the lip resulting from operations for cancer may be corrected in a number of ways, following the rules laid down in the textbooks I have found, however, that a long V-shaped excision with the apex rather narrow, and loosening of the tissue on each side, is a simple and effective measure If too much constriction occurs, the corners of the mouth can be split and the mucous membrane sutured to the skin Fortunately, cancer of the lip occurs in middle-aged or elderly persons, in whom the skin is greatly relaxed and the lower lip usually sags down, consequently, the appearance of the lip is often improved by such an operation In younger persons, in whom burns often produce deformity, the skin can be slid up from the neck, if the burn is not too extensive, or can be transplanted from the arm, leaving a pedicle for about two weeks All of these cases will require slight operations later on to smooth down the region where the pedicle was cut Thiersch grafts will promote healing but do not prevent the contraction following burns, therefore the whole skin should be used

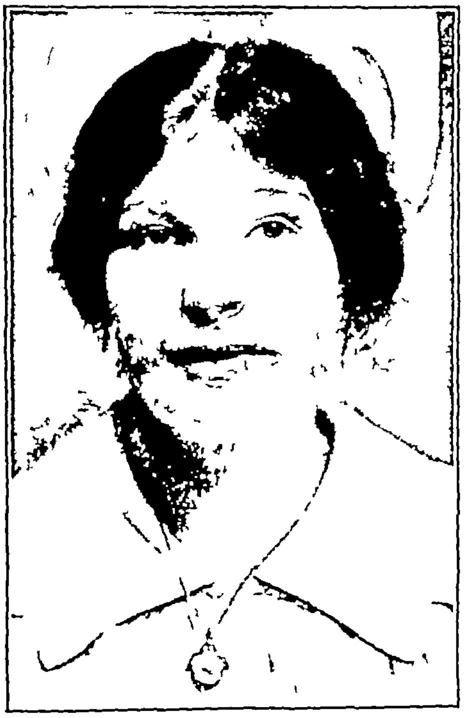


Fig 12 —Ultimate result after smoothing out the flap

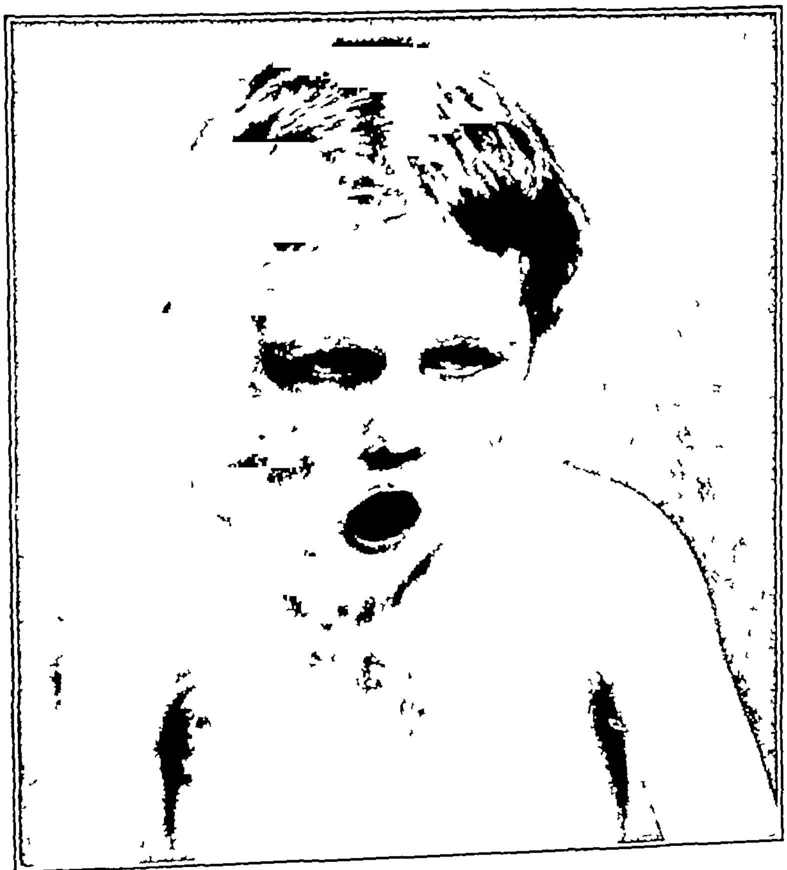


Fig 13 —Boy with deformity resulting from burn on the lower lip, neck and chest

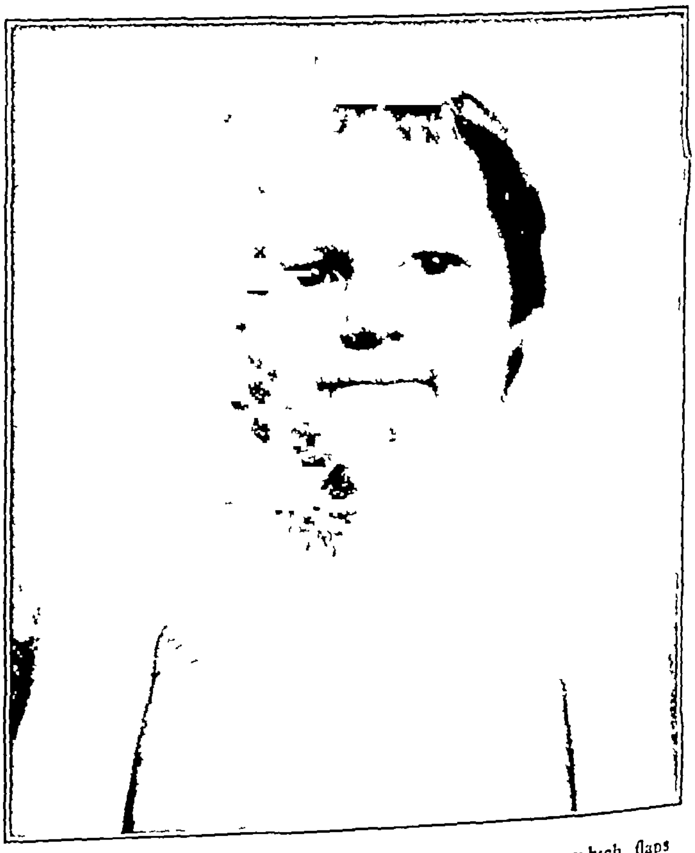


Fig 14 —Boy shown in Figure 13 after operations in which flaps were brought from the neck and shoulder on both sides Note that the patient can now close his lips firmly without any undue tension on the tissues of the neck

Owing to the relaxed condition of the tissues in the old, a burn will often produce a different type of deformity here from that which is found in the young, in whom the tissues are firmer and more closely connected and tend to move as a whole (Fig 9)

In the case of a young girl in which it was necessary to make practically the whole lip except the mucosa, a very satisfactory result was obtained by reconstructing the lip from a flap transferred from the arm (Figs 10, 11 and 12) If only the lower part of the lip is involved, flaps can be slid up from the chest, or from the neck, sometimes cutting them twice in order to get them into position, "waltzing" them, as it is termed by Halstead (Figs 13 and 14)

A complete defect such as is left by noma, involving skin, muscle and mucous membrane, can usually be corrected by a quadrangular flap which is turned down from the cheek, the mucous membrane being included

In a case in which there was a defect of this kind the base of the flap was external to the outer angle of the mouth and the lateral incisions ran parallel to the nasolabial fold The flap was turned into the defect, which consisted of complete destruction of almost half of the lower lip and part of the cheek, and the vermilion border of the lip was constructed at subsequent operations

CLINICAL DETERMINATION OF RENAL FUNCTION BY AN INDEX OF UREA EXCRETION *

FRANKLIN C McLEAN, PhD, MD
NEW YORK

During the past few years, qualitative and quantitative studies of renal excretory activity, or so-called kidney function, have been carried out in a number of ways These studies have been directed, on the one hand, either toward an estimation of elimination in the urine by the kidney of substances which it excretes normally, or toward the study of the ability of the kidney to excrete foreign substances artificially introduced into the body On the other hand, there have been numerous studies of the blood in the various forms of disturbed renal function

For the study of excretion of foreign substances, various dyes have been used Most important of these is phenolsulphonephthalein, introduced into clinical use by Rowntree and Geraghty [1] The method consists in the intravenous or intramuscular administration of the dye, and the colorimetric determination of the amount recovered in the urine in a standard length of time Its value depends on the fact that normally a fairly constant percentage of the dye injected is excreted in the urine within the first two hours, and that in certain types of disturbed renal function the excretion is delayed, so that a smaller percentage appears in the urine during the period of observation The method has proved to be of great service in the study of renal activity

Schlayer and Takayasu[2] have used lactose and potassium iodid in a large number of cases, the lactose to test the ability of the kidney to excrete substances in the same general class with urea, and the iodid to test salt function In general, these tests have not been found so easy of application or of interpretation as to make them of great value

Study of the elimination of substances normally excreted by the kidney has mainly included determinations of the nitrogen and salt in the urine following the ingestion of an analyzed diet Applications of this method have been advised by Hedinger and Schlayer,[3] and more recently, in this country, by Mosenthal [4]

In all these tests it has been the urine alone which has been examined, the assumption being made that alterations in the manner or time of elimination are due to kidney factors alone But this assumption is open to serious objection The time required for the excretion of considerable amounts of nitrogen or salt, suddenly added to the diet, may, indeed, give some indication of the degree of kidney insufficiency, but the failure to excrete these substances within a specified time is often due to other factors than the ability of the kidneys to carry on their excretory functions Thus a patient with fever may retain enormous quantities of salt in the body, even though the kidneys are perfectly capable of excreting it, and retention is due to the fact that the excess salt is removed from the blood by the tissues That, under certain other conditions, a similar retention of nitrogen in the tissues occurs, independently of the ability of the kidneys to excrete nitrogenous substances, is indicated by the recent studies of Foster and Davis [5]

Study of the daily nitrogen or salt balance between intake and output is of even less value than study of suddenly added nitrogen or salt It has, indeed, long been recognized that determination of the total nitrogen or urea output gives no indication as to the state of the function which provides for the excretion of nitrogen An individual may excrete normal amounts of urea in the twenty-four hours, and remain in perfect nitrogen equilibrium for weeks or months, and yet be suffering from severe nephritis, with advanced functional changes Except in the case of those patients with chronic parenchymatous nephritis, who are scarcely able to excrete any salt at all, comparison of the salt output with the intake gives little information In fact, the salt balance is so easily disturbed by extrarenal factors that the findings are more apt to be misleading than of direct value, as far as the chlorid function of the kidney itself is concerned The same objection seems to hold with regard to the use of potassium iodid as a test of the ability of the kidney to excrete salts, since potassium iodid is influenced by the same extrarenal factors which influence sodium chlorid

Studies such as these, of urine alone, can at best give only a general idea of the true renal condition, and can be in no sense a quantitative measurement of the renal activity

In addition to the urine, the blood has also been studied in these conditions, especially as to its urea and total nonprotein nitrogen content The results of these estimations have been more encouraging Studies of the nonprotein nitrogen of the blood have been stimulated by the recent improvements in methods for blood analysis introduced by Folin, Marshall, Van Slyke and Cullen, Benedict and others Attention has been directed not only toward the urea and total nonprotein nitrogen, but also to the study of uric acid, creatin and creatinin, and amino-acids, as they exist in the blood It has been found that the various forms of nonprotein nitrogen, but more especially urea nitrogen, are increased in the blood in certain forms of nephritis, and one may often recognize impairment of function by examination of the blood alone, the amount of increase in urea or total nonprotein nitrogen affording some clue as to the severity of the condition

Determination of the amount of urea nitrogen, or of total nonprotein nitrogen in the blood, however, is not entirely dependable as a measure of excretory activity The normal concentration of urea in the blood is not fixed, but varies within wide limits in response to variations in nitrogen and fluid intake As a matter of fact, the larger proportion of individuals with disturbed urea function have concentrations of urea in their blood which are below the upper limits in normal individuals, so that the line of demarcation between normal and abnormal subjects is not sharp Blood urea figures alone, therefore, may call attention only to the more serious instances of disturbed function Furthermore, the concentration of urea in the blood even of nephritic individuals is not constant or fixed

---

* From the Hospital of the Rockefeller Institute for Medical Research

[1] Rowntree L. G and Geraghty J T The Phthalein Test Arch Int Med March 1912 p 284

[2] Schlayer and Takayasu Untersuchungen uber die Funktion kranker Nieren beim Menschen Deutsch Arch f klin Med 1910-1911 ci 333

[3] Hedinger and Schlayer Ueber die Prufung der Nierentatigkeit durch Probemahlzeit Deutsch Arch f klin Med 1914 cxiv 120

[4] Mosenthal H O Renal Function as Measured by the Elimination of Fluids Salt and Nitrogen and the Specific Gravity of the Urine Arch Int Med November 1915 p 733

[5] Foster and Davis Proc Soc Exper Biol and Med November 1915 xiii 33

On the contrary, Widal and Javal,[6] in 1904, showed that the concentration of urea in the blood can be made to fluctuate at will in cases of nephritis, by varying the protein intake They formulated standards for judging the degree of variation from normal in the concentration of urea in the blood, according to the nitrogen intake of the individual The demonstration of variations in the concentration of urea and total nonprotein nitrogen in the blood of nephritics, under various conditions of nitrogen intake, has been more recently considered by Folin and his collaborators,[7] and by Frothingham and Smillie[8]

The limits of variation of the concentration of urea in the blood, and the circumstances which govern these variations were therefore known when Ambard,[9] another French observer, following Widal and Javal, carried investigations in this field a step further His method includes a knowledge not only of urea concentration in the blood, but in the urine as well To this he added determinations of the rapidity with which urea elimination occurs All of these factors, which are interdependent, are included in his estimations He demonstrated that normally a constant relationship exists between the concentration of urea in the blood and the amount excreted per unit of time (that is to say, the rate of its excretion) He formulated the laws governing this relationship, and expressed them in a form known as Ambard's coefficient[10] This coefficient gives the *ratio between the concentration in the blood and the rate of excretion* Applied to normal individuals, remarkably constant values are obtained for the coefficient But in cases with impaired function, Ambard showed that the coefficient obtained is often very greatly changed, because there is a relative increase in the concentration of urea in the blood and a relative decrease in the rate of excretion Ambard's findings in normal and pathologic individuals have been repeatedly confirmed, and need no further support The principles underlying the laws are discussed briefly here[11]

AMBARD'S LAWS

The principles underlying the laws of urea excretion may be illustrated in a very simple way If we imagine a vessel (*A*, Fig 1) into which water flows at a constant rate, escaping through an outlet at the bottom, the water will seek that level in the vessel at which the pressure is such that the rate of outflow is exactly equal to the intake If we then decrease the size of the outlet, the rate of inflow remaining as before, the water in the vessel will rise to a new level, at which the rate of outflow is again exactly equal to the intake (*B*, Fig 1) A change in the rate of inflow will of course cause a change in the level In other words, fluctuations in the level of the water in the vessel may occur to compensate for changes in the rate of inflow or in the size of the outlet As is well known, these changes are not haphazard, but take place according to definite laws of hydrostatics, and may be expressed numerically Similarly, fluctuations in the concentration of urea in the blood occur in health to compensate for changes in the nitrogen intake, and in pathologic conditions to compensate either for changes in the nitrogen intake or in the rapidity with which body proteins are broken down, or in the size of the outlet, represented by the relative functional efficiency of the kidney Either increased urea formation in the body, or disturbance of urea elimination through the kidney, requires a higher level of urea in the blood to provide for a sufficiently rapid rate of excretion to keep the organism in nitrogen equilibrium That this is the mechanism of fluctuations in concentration of urea in the blood in health and disease was known from the work of Widal and Javal[6] That these changes take place in response to definite laws, capable of numerical expression, was shown by Ambard

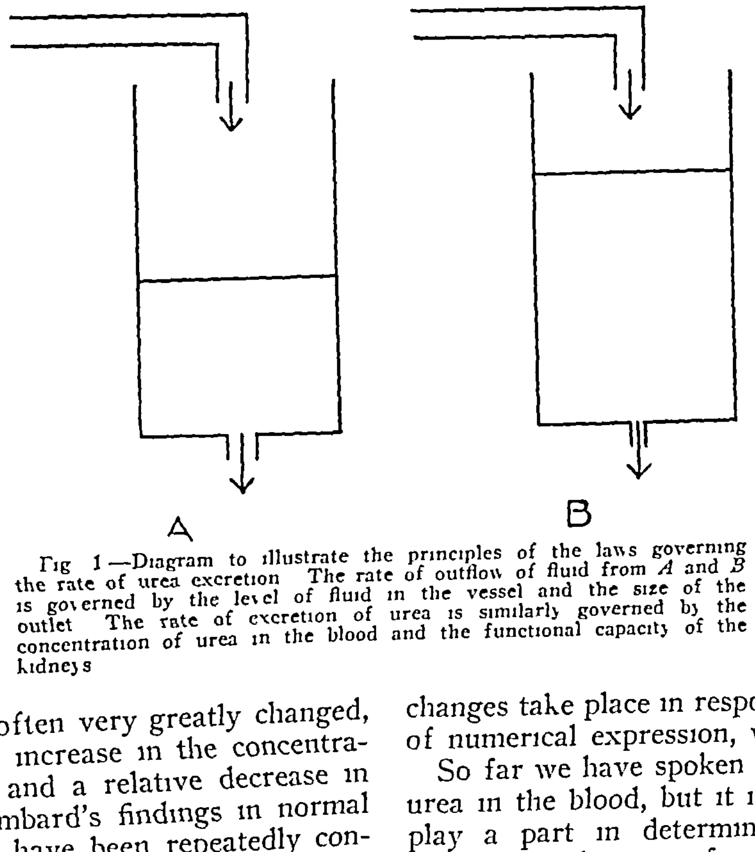


Fig 1 —Diagram to illustrate the principles of the laws governing the rate of urea excretion The rate of outflow of fluid from *A* and *B* is governed by the level of fluid in the vessel and the size of the outlet The rate of excretion of urea is similarly governed by the concentration of urea in the blood and the functional capacity of the kidneys

So far we have spoken only of the concentration of urea in the blood, but it is obvious that other factors play a part in determining the rate of excretion Changes in the rate of water excretion alter the rate of output of urea, which changes as the concentration of urea in the urine changes, though not directly in proportion to these changes The rate of elimination also varies according to the weight of the individual, and is constant per kilogram of body weight, when the other conditions remain constant All of these factors have been considered by Ambard in formulating the laws published by him

Certain variations in these factors occur among normal individuals, and in the same individual We have previously[12] called attention to this fact, and have suggested that these variations are due in part to changes in blood flow through the kidneys, and to variability in the amount of functionating kidney tissue in relation to body weight in different individuals. Up to the present time it has not been possible to estimate these variables. In comparison with the changes found in abnormal individuals, this variability is, relatively speaking, slight. It is of physiologic interest, but does not affect the applicability of the laws as at present used.

---

[6] Widal and Javal Le mecanisme regulateur de la retention de l'uree dans le mal de Bright, l'indice de la retention ureique chez les brightiques, Compt rend Soc de biol, Oct 22, 1904, 301, 304, Semaine med, 1904, xxiv, 347, La retention de l'uree dans le mal de Bright, comparée à la retention des chlorures, Semaine med, 1905, xxv, 313

[7] Folin, Otto, Denis, W, and Seymour, Malcolm The Non Protein Nitrogenous Constituents of the Blood in Chronic Vascular Nephritis (Arteriosclerosis) as Influenced by the Level of Protein Metabolism, Arch Int Med, February, 1914, p 224

[8] Frothingham, Channing, Jr, and Smillie, W G A Study of Different Nitrogenous Diets in Chronic Nephritis, Arch Int Med, February, 1915, p 204

[9] Ambard, L Rapports entre le taux de l'urée dans le sang et l'elimination de l'uree dans l'urine, Compt rend Soc de Biol, Nov 19, 1910, p 411, Rapports de la quantite et du taux de l'urée dans l'urine, la concentration de l'uree du sang etant constant, ibid, Dec 3, 1910, p 506, Physiologie normale et pathologique des reins, Paris, 1914 (for bibliography and review of French work on subject)

[10] See also, Ambard's Formula, Queries and Minor Notes, The Journal A M A, Sept 7, 1912, p 818

[11] Ambard's laws, and the derivation of the index of urea excretion, have been fully discussed in our previous papers to which the reader is referred for more complete information It has been possible here to give only the formula as used at present, with a brief statement of its significance, and the methods for observation and for calculation

[12] McLean and Selling Urea and Total Non Protein Nitrogen in Normal Human Blood Relation of Their Concentration to Rate of Elimination Jour Biol Chem, 1914, xix, 31 McLean, F C The Numerical Laws Governing the Rate of Excretion of Urea and Chlorides in Man, Jour Exper Med, 1915, xxii, 212, 366

We take up the subject where Ambard left it. It is the purpose of this paper to present a relatively simple method, based on the laws of Ambard, for making clinical estimations of the state of the function which has to do with excretion of urea. It is important to state that investigations concerning urea excretion are especially valuable in the study of renal disease. For although the various functions of excretion by the kidney appear to be quite specific, so that no one test can be regarded as a measure of total renal function, nevertheless the information obtained from a study of the urea function appears to be more general than from that of any other. In consequence it may, in a measure, be regarded as throwing light on the renal capacity or activity as a whole.

Data obtained by this method are direct quantitative measurements of one of the most important functions of the kidney, that is, the elimination of nitrogen in the form of urea. Interpretation of the results, therefore, depends not on general impressions, but on definite facts, as far as this function is concerned. Performance of the test requires a shorter time than the use of any test diet, requires fewer analyses, is much more broadly applicable, and may be repeated indefinitely without harm or inconvenience to the patient. It requires no knowledge of the nitrogen or fluid intake, and is not interfered with by vomiting, refusal of food, diarrhea, delirium or coma. The blood and urine required for the necessary analyses may be secured within the time of an ordinary consultation, and the analyses can be carried out in any well equipped clinical laboratory. From the standpoint, therefore, not only of ease and convenience of performance, but also of the value of the results obtained, the method is to be preferred to the various modifications of the test diet.

THE INDEX OF UREA EXCRETION

The index of urea excretion is based on an ideal normal Ambard's coefficient of 0.080. The extremes of variation of Ambard's coefficient in the normal are from about 0.050 to 0.085 or 0.090. Deficiency in urea function results in higher values. These higher values are due to a change in the ratio which exists between the concentration of urea in the blood and the rate of its excretion. Such findings indicate deviation from the normal, but do not measure the extent of the functional change which is responsible for such deviation. The significance of the abnormal ratio found in any pathologic case, therefore, can be understood only by reference to an arbitrary scale, determined by experience.

Since it is possible to utilize the laws of Ambard in another form to measure functional changes directly, we have thought it desirable to use a new formula. In the case of the formula as at present used, the ideal normal is determined arbitrarily, by experience, and deviations from the normal in the rate of urea excretion are measured *directly in terms of the ideal normal*. Ambard has shown experimentally that the rate of excretion of urea under otherwise constant conditions varies directly with the amount of functionating kidney tissue. In observations in human subjects it is not possible to keep conditions constant, but it is possible, by an application of Ambard's laws, to measure the influence of their variations on the rate of excretion of urea. The ideal normal rate of excretion, under the conditions found, at any time, is given a value of 100. The index then expresses, in direct percentage, the rate of excretion found, in terms of the rate of excretion that a normal individual would develop under the same conditions as to concentration in the blood, concentration in the urine, and body weight.

The index is therefore not a substitution of a new formula, with a new scale of arbitrary values, in place of the Ambard formula, but is a direct measure of an important excretory function. Since, as we have shown, Ambard's coefficient is not in itself a direct *indication of the state of the function which has to* do with the excretion of urea, but is merely the ratio between the concentration of urea in the blood and the rate of its excretion, the index expresses facts which can be obtained from Ambard's coefficient only by further calculation.

Ambard's laws depend on the constant relationship of four variables: (1) the concentration of urea in the blood, (2) the concentration of urea in the urine, (3) the rate of urinary excretion, which together with (2) gives us the rate of urea excretion, and (4) the weight of the individual. We have indicated this constant relationship in our present formula as follows:

$$\text{Index of excretion} = \frac{\text{Rate of urea excretion} \sqrt{\text{Concentration in urine}} \times \text{Constant}}{\text{Weight of individual} \times (\text{Blood urea})^2}$$

In order to give the index a constant value of 100 for the ideal normal, and in order to determine the numerical value for the constant, certain arbitrary methods of expression of the various factors must be adopted. We have adopted the same methods as those used by Ambard, that is, the expression of rate of urea excretion as grams per twenty-four hours, the concentration in the blood and urine as grams per liter, and the weight of the individual in kilograms. Urea, and not urea nitrogen, is used throughout. It should be distinctly understood that other methods of expression of the various factors would not change their constant relationship, or the index, but would change merely the numerical value of the constant of the formula. When variables which give an Ambard's coefficient of 0.080, the figure chosen as the ideal normal, are substituted in the formula, the constant must have a value of 8.96 to give an index of 100. The mathematical derivation of the new formula is discussed in detail in our previous papers.[1, 2] It reads:

$$\text{Index of Urea Excretion (I)} = \frac{D\sqrt{C} \times 8.96}{Wt \times Ur^2}$$

D = Grams urea excreted per 24 hours.
C = Grams urea per liter urine.
Ur = Grams urea per liter blood.
Wt = Body weight of individual in kilograms.

The rate of excretion is not actually determined for twenty-four hours, but for a shorter period, usually seventy-two minutes (one-twentieth of twenty-four hours), the calculation being made on a basis of grams per twenty-four hours. It is important to remember that it is not the actual twenty-four hour excretion of urea that is essential, but the rate of excretion at the time of observation.

Substitution in the foregoing formula of values obtained by observation in normal individuals should give values for the index approximating 100 The actual variations in Ambard's laws in normal individuals are magnified by this formula, the variability appearing to be much greater than when the same results are expressed in the form of Ambard's coefficient When observations are made under the proper conditions, values for the index of less than 80, corresponding to an Ambard's coefficient of 0 090, should never be obtained in normal individuals, and no normal subject should be repeatedly below 100 Values above 100 are the rule, and values up to 180 and 200 may occur Much higher values may be obtained under certain pathologic conditions, associated with an increase in the rate of urea excretion It is perhaps unfortunate that such apparently wide divergence occurs among normal persons, and in the same normal individual This is a result of expressing the laws in this form, and it does not affect the value of the index as a measure of abnormal variations

Our usual routine is as follows The patient is given from 150 to 200 c c of water, in order to insure a free flow of urine One-half hour later, in order to start with the bladder empty, he voids The patient is catheterized if necessary, as in urine retention or in the case of coma The time of voiding is recorded to within one minute About thirty-six minutes later, from 7 to 10 c c of blood are withdrawn from an arm vein into a dry tube containing a few milligrams of potassium oxalate or citrate to prevent clotting At the end of seventy-two minutes from the first voiding the bladder is again emptied, and the urine carefully measured to within 1 c c and used for analysis The patient takes no food or water during this period Otherwise no restrictions are placed on him

The seventy-two minute period is merely for convenience, as being one twentieth of twenty-four hours Any other period, preferably not too long, will serve Ambard preferred a period of thirty-six minutes, but the possibility of error in the collection of the specimen is doubled when the time is halved If it is desired to carry out a simultaneous phenolsulphonephthalein test, the sixty minute or two hour phthalein period may be used, half of the urine being used for the phenolsulphonephthalein reading, and the other half for the analyses

Analyses should be made by the most accurate, convenient and rapid method available for determination of urea in the blood and urine The method requires more than the usual degree of accuracy in clinical laboratories, as a relatively slight error in analysis may introduce a considerable error into the formula The urease method, introduced by Marshall,[13] fulfils all of the requirements This method depends on the breaking down of urea into ammonia and carbon dioxid by the specific enzyme found in the soy bean, and the subsequent determination of the ammonia We have used the permanent preparation

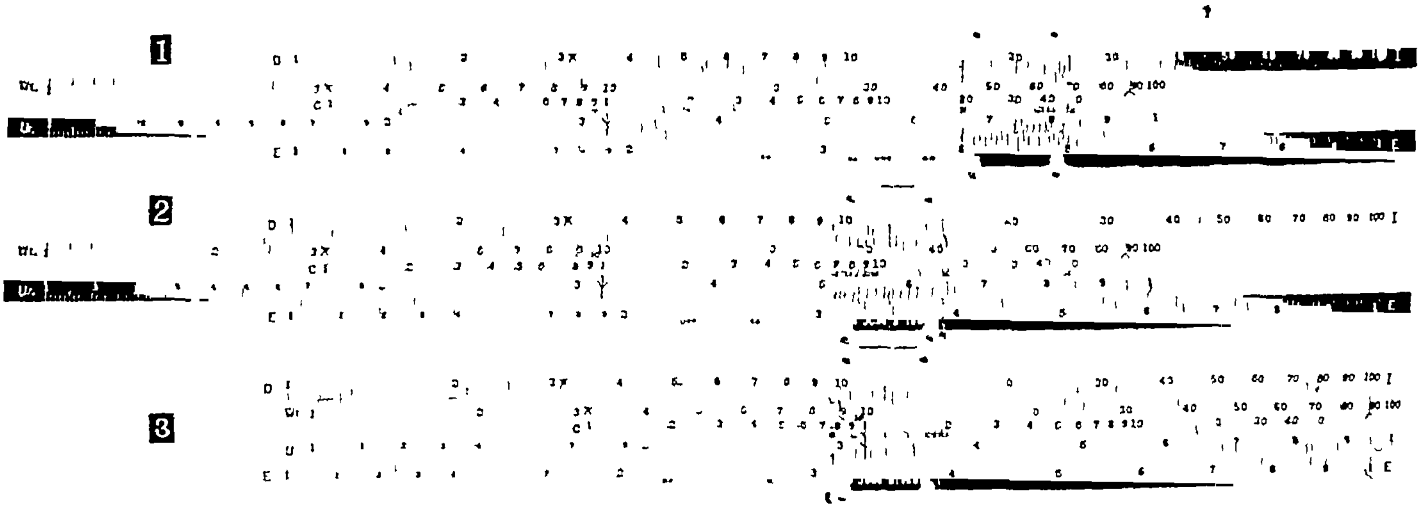


Fig 2—Ten inch slide rule adapted to the calculation of the Index of Urea Excretion

Example

Grams urea excreted per 24 hours, $D = 20\ 0$
Grams urea per liter of urine, $C = 11\ 0$
Grams urea per liter of blood, $Ur = 0\ 330$
Body weight, in kilos, $Wt = 55\ 0$

$$\text{Index} = \frac{D\sqrt{C} \times 8\ 96}{Wt \times Ur^2} = \frac{20\ 0\sqrt{11\ 0} \times 8\ 96}{55\ 0 \times (\ 330)}$$

1 55 0 on Wt scale is set opposite 20 0 on D scale, first position

2 Hair line on runner is moved to 11 0 on C scale second position

3 Slide is moved so that 3 30 on Ur scale is at hair line on runner third position

Reading is now made at the arrow which points to scale I and is at 100 Therefore Index, I = 100

METHODS FOR OBSERVATION

Observations can be made at any time, without regard to diet, since application of the laws is independent of the nitrogen intake It is preferable, though not essential, that the observation should not be made too close to the taking of food, since the most rapid changes in the various factors occur during the height of digestion and absorption Since observations require neither the introduction of a foreign substance, nor the ingestion of weighed amounts of food, they may be made without regard to vomiting, coma or delirium, and interfere in no way with any plan of treatment that is being carried out Frequent observations may thus be made without the necessity of interrupting a dietetic treatment with test meals

The essential points in an observation are (1) the collection of urine over a carefully timed period, (2) the collection of blood near the middle of that period, and (3) accurate determination of the urea content of the samples of blood and urine

---

13 Marshall, E K, Jr A Rapid Clinical Method for the Estimation of Urea in Urine, Jour Biol Chem 1913, xiv, 283 A New Method for the Determination of Urea in Blood, ibid 1913, xv, 487, The Determination of Urea in Urine, ibid, 1913, xv, 495

of urease described by Van Slyke and Cullen,[14] and carry out the determinations in the manner which they prescribe With careful technic and control of the reagents, this method gives consistently accurate results It is very simple, very rapid, and requires the minimum of manipulation Three analyses are necessary, blood urea, urine urea and urine ammonia Urine ammonia is determined in order to correct the urea figure for preformed ammonia, which is also determined in the urea method Duplicate determinations on blood are advisable, as a higher degree of accuracy is thus obtained The determinations are run simultaneously in the same apparatus, and require little attention

TABLE 1—ILLUSTRATION OF INDEPENDENCE OF INDEX AND NITROGEN INTAKE*

Date 1915	Weight Kg	Grams Nitrogen in 24 Hours					Urea Excretion 72 Minute Period			
		Intake	Output			Difference				
			Urine	Stools	Total		Gm per liter blood Ur	Gm per liter urine C	Cm per 24 hours D	Index of Urea Excretion I
Nov 5	65 0	19.2	16 1	3 15	19 25	— 05	0.858	9.87	37.5	22 0
Nov 12	64.8	9 6	7 92	1 61	9 53	+ 07	0 499	10 68	12.8	23.2
Nov 16	64.8	9 6	6 6	2.92	9 52	+ 08	0 411	7 06	11 0	21 0
Nov 30	65 4	4.8	3 48	1 37	4.85	— 05	0.211	4 37	3 32	21 4

*Case 1—O A P man aged 45 Diagnosis general arteriosclerosis chronic interstitial nephritis

CALCULATION OF THE INDEX

The results from the determinations are calculated to the form in which they are to be expressed in the formula The weight of the individual, without clothing, should be known to within one kilogram The four variables are substituted in the formula, and the index calculated Calculation has been rendered simple by the use of a special calculating device, illustrated in Figure 2 With this device, which is a modified 10-inch slide-rule, one needs to remember neither the formula nor the mathematical principles involved With a little practice in reading the scales, calculation becomes purely mechanical, and requires only a few seconds[15] Without this slide-rule, calculation is most easily performed with an ordinary slide-rule, or by the aid of logarithms

APPLICATION OF THE INDEX

Numerous studies have been made, or are in progress, using the index as a measure of urea function It is not the purpose of this paper to present cases or conclusions, but certain points regarding the applicability and value of the index are illustrated

Table 1 illustrates the fact that the index is independent of nitrogen intake It also shows clearly that the actual blood urea figure may be very misleading, if taken by itself, as an indication of the ability of the kidneys to excrete nitrogen In the case illustrated reduction of nitrogen intake was followed by a corresponding decrease in nitrogen elimination, the patient coming rapidly to equilibrium The balance between intake and output was maintained at a lower level of urea in the blood, the index remaining constant Had the blood urea alone been determined at the lowest level, which is lower than the usual normal, one could not have said that there was evidence of impaired renal function By application of the index, the actual ability of the kidney to excrete urea is seen to be the same at the lowest level in the blood as at the highest

This case also throws light on the mechanism of so-called nitrogen retention One can easily see that the increased level of urea in the blood on the higher nitrogen intake is purely compensatory, and is not due to a lack of ability on the part of the kidney to excrete the larger amounts of urea being formed in the body The kidney actually does excrete the larger amounts of urea just as well as the smaller amounts, but it requires a higher concentration of urea in the blood to bring this about To speak of nitrogen retention on the basis of increased concentration of nonprotein nitrogen in the blood is therefore apt to be misleading

RELATION TO PHENOLSULPHONEPHTHALEIN OUTPUT

Numerous simultaneous observations on urea and phenolsulphonephthalein elimination make it appear that the mechanism is the same in the two instances The curves of the percentage of phenolsulphonephthalein excreted in two hours, and of the urea index are parallel and are quite striking No considerable divergence has been found in any case, with the exception of some patients suffering from heart failure These subjects were not excreting enough water to carry off the urea formed in the body, but were able to eliminate phenolsulphonephthalein fairly well In Table 2 are given figures comparing the results by the two methods These observations were all in individuals who were excreting water at a rate sufficient to eliminate all the urea being formed in the body They were either simultaneous observations on phenolsulphonephthalein and urea elimination, or the two observations were made within a short time of each other

TABLE 2—ILLUSTRATION OF THE COMPARISON BETWEEN THE UREA INDEX AND PERCENTAGE OF PHENOLSULPHONEPHTHALEIN EXCRETED IN TWO HOURS

Subject	Diagnosis	Blood Urea Grams per Liter	Urea Index	Phenol sulphone phthalein Per Cent in Two Hours
1	Mitral stenosis	182	250	83
2	Parenchymatous nephritis	216	189	66
3	Mitral stenosis	196	105	65
4	Acute nephritis (convalescent)	383	92	46
5	Heart block	480	91	58
4	Acute nephritis (convalescent)	395	89	51
4	Acute nephritis (convalescent)	.317	68	41
6	Chronic nephritis	.388	60	45
4	Acute nephritis (convalescent)	406	56	34
7	Chronic nephritis	446	52	41
8	Chronic nephritis	437	47	38 5
7	Chronic nephritis	454	44	33
7	Chronic nephritis	.546	39	42
8	Chronic nephritis	400	37	27
4	Acute nephritis (convalescent)	634	33	25.5
9	Mercuric chlorid poisoning	610	19	15
10	Chronic nephritis	488	18	25
11	Chronic nephritis	977	8 1	8
11	Chronic nephritis	1 016	7.9	8.5
12	Chronic nephritis	1 850	7 4	7
4	Acute nephritis	1.320	7	6 5
4	Acute nephritis	966	6 1	18.2
13	Chronic nephritis	1 110	4 2	2.5
14	Chronic nephritis	2 147	1	Trace
11	Uremia	3 430	0 27	0

These figures are in close agreement with those of a similar study published by Widal, Weill and Vallery-

---

[14] Van Slyke D D and Cullen G E A Permanent Preparation of Urease and Its Use in the Determination of Urea Jour Biol Chem 1914 xix 211 id THE JOURNAL A M A May 16 1914 p 1558 Urease is prepared according to the method of Van Slyke and Cullen by the Arlington Chemical Company of Yonkers N Y and furnished with directions for use

[15] The rule with directions for use may be obtained from Keuffel and Esser Co, 127 Fulton Street New York The same rule is used for calculation of the chlorid formula described in previous papers (Footnote 12)

Radot[16] Their results are reproduced in graphic form in Figure 3, their figures for urea excretion being recalculated in the form of the index of urea excretion Both studies show a remarkably close parallelism between the index and the percentage of phenolsulphonephthalein excreted in two hours In the cases with normal or increased excretion of both urea and phenolsulphonephthalein the figures for the index are naturally higher, since the ideal normal index is 100, *and higher figures* are attained in persons with increased excretion, while the normal phenolsulphonephthalein excretion is about 60 per cent in two hours, and 100 per cent can be approached by individuals with increased excretion, but not exceeded In the lower figures the two tests show in practically every instance the same diminution in rate of excretion of urea and of phenolsulphonephthalein Both the table and the graphic chart show the failure of the blood urea figure alone to indicate the degree of disturbance in urea elimination, since many cases show blood urea figures below the upper limits in normals, though both the index and phenolsulphonephthalein figures are low

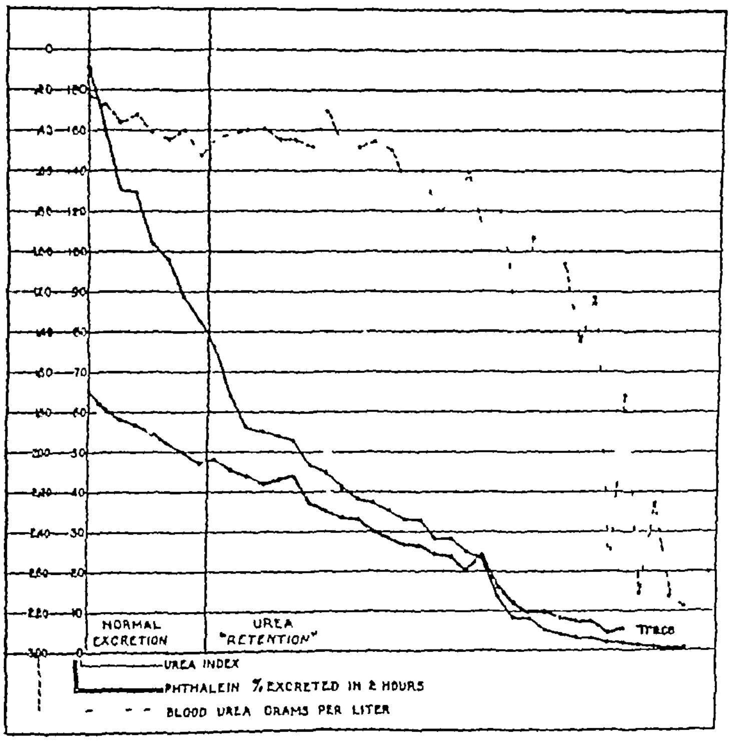


Fig 3—Graphic illustration of close agreement of findings regarding urea and phenolsulphonephthalein excretion (From figures published by Widal, Weill and Vallery Radot)

These findings confirm the value of the use of phenolsulphonephthalein as a clinical test of the ability of the kidneys to excrete substances belonging in the same class with urea While a rational basis for the use of phenolsulphonephthalein is thus given, certain factors make the direct determination of urea function of still more value than the phenolsulphonephthalein In the first place, it is a direct determination of a normal function, of which the phenolsulphonephthalein test is an indirect determination Interpretation of possible discrepancies between the two methods must recognize this fact For study of the effects of treatment in a given case, the index is certainly the more delicate indicator, and the line of demarcation between normal and abnormal cases is sharper than in the case of phenolsulphonephthalein The index has an added advantage in that, as it tends to approach zero, smaller differences are of greater import, and are more easily determined than in the case of phenolsulphonephthalein Thus the difference between 3 and 6 per cent phenolsulphonephthalein excreted in two hours is difficult to determine colorimetrically, while it is a very considerable difference in the case of the index From the standpoint of determining whether the condition is stationary or progressive, the index is therefore much more delicate than determination of the small amounts of phenolsulphonephthalein excreted in cases with advanced impairment of function

In addition to the index itself, the analyses necessary in determining it are of direct value We have learned to attach a certain amount of import to the blood urea figure alone The index, therefore, adds enormously to the value of an already recognized *method, with the addition* of practically no technical details The determination of urea in the urine, the only laboratory work required in addition to the blood urea, demands only a moment's extra time

Neither the phenolsulphonephthalein nor the index, *in itself, furnishes* positive information as to the cause of the impairment of function Indirect information is, however, furnished by *the determinations made* in arriving at the index A low index, associated with a diminished excretion of urine, with a high urea content, suggests passive congestion of the kidneys The same index, occurring with the excretion of normal or increased amounts of urine, with a low urea content, may be characteristic of certain forms of nephritis Thus additional information is obtained in the determination of the index

For the present we prefer to study cases of nephritis with both the index and the phenolsulphonephthalein test Each serves as a check on the other, and the maximum of information is obtained in the simplest way possible

PRACTICAL VALUE OF THE METHOD

Applicability of the method as a guide to diagnosis, prognosis and treatment will depend on further clinical reports, but certain facts have become evident

An index below 80 is to be considered as abnormal, though not necessarily seriously so In renal disease an index below 50 is indicative of a considerable degree of impairment of functional ability The amount of damage to the kidneys, it is believed, is increasingly greater as the index is lower, and tends to approach zero But a low index may be only temporary, as in the passive congestion of heart failure or in acute nephritis, and may return to normal on improvement of the condition which is responsible for impaired function The actual figure obtained for the index should be of value in prognosis in renal disease, though renal function alone is often not the determining factor in prognosis In our experience a low index has at times been the first indication of a serious kidney involvement When the condition is stationary, life may be maintained for some time with a low index For example, we have seen patients with chronic nephritis survive for several months with an index of from 5 to 8, and we have seen recovery from acute nephritis after a number of weeks, during which time we have obtained the same figures In another instance, the patient survived for about a month after the index was as low as 1 2 Such figures, in chronic disease, certainly determine a grave prognosis But, unless the condition is known to be progressive, it is difficult to give a prognosis with regard to the duration of life Other aspects of the disease must, of course, be considered in attempting a prognosis

---

[16] Widal, Weill and Vallery Radot L'Epreuve de la Phénolsulfone phthaléine Parallelisme avec l'etude de l'excretion de l'urée chez les brightiques, Presse méd , July 22, 1914, p 565

Progressive decrease in the index, usually associated with a corresponding increase in the concentration of urea in the blood, is of serious import Two cases have recently been under observation in which such a fall in the index was followed by death within a short time In one case the fall in the index was the first indication of impending uremia, although the first symptoms did not occur until ten days after the discovery of a change in the index

Use of the index as a guide to dietetic or other treatment of nephritis must depend on further studies It is doubtful whether the diminished urea content of the blood which follows a diminished nitrogen intake has any direct beneficial effect Whether a long continued rest of the urea function will improve that function remains to be demonstrated On general principles, an impaired function should not be overtaxed, and a restricted protein intake should be advised in cases with a markedly lowered index of excretion But brutal restriction of nitrogen intake to below the nitrogen requirement of the body does not seem to be indicated in cases capable of excreting normal amounts of urea, though the blood nitrogen may be high and the index low

The influence of diuretic drugs also requires further study Here the findings will depend on the type of case studied, and it is necessary to have a satisfactory method for grouping them Study of diuretic drugs, involving also their effect on chlorid function, is in progress

Application of the index is seriously interfered with when water excretion is greatly diminished, as in passive congestion or in some forms of nephritis The laws of urea excretion depend on a sufficiently rapid rate of urine excretion, and they fail to apply when the water output is greatly diminished We make it a general rule not to attempt to apply the index when a rate of urinary outflow equal to at least 500 c c in twenty-four hours cannot be attained Otherwise there are practically no limitations as to its applicability

SUMMARY

We present a relatively simple method, based on the laws of Ambard, for the direct quantitative determination of the state of the function which has to do with the elimination of urea The method is applicable in a wide range of cases, easy of performance, and gives results which should prove of great value in the recognition, prognosis and treatment of certain conditions associated with impairment of renal function

FOREIGN BODIES SWALLOWED BY AN INSANE WOMAN

DONALD C BALFOUR, M D
ROCHESTER, MINN

The practice by professionals of swallowing foreign bodies, and the mania for doing so by the insane, has contributed to medical literature reports of instances of the most grotesque assortment of articles having been retained in the stomach for long periods, without injury to the mucous membrane and without producing symptoms The case I report is somewhat novel in that the patient exhibited a preference for one article, namely, teaspoons The limit of this woman's capacity, had her habit not been discovered and interrupted, can only be conjectured The nurse in charge of a ward at the Rochester State Hospital by chance saw a teaspoon disappear into the woman's mouth A roentgenogram was immediately made which showed apparently three or possibly four spoons in the stomach The woman was 29 years of age, was evidently in perfect physical health, and, as far as could be determined, had suffered no distress or inconvenience from the presence of the spoons

Roentgenogram showing teaspoons and a hairpin in the stomach

Sept 1, 1915, a gastrotomy was done, and seven teaspoons, instead of the supposed three or four, were found They were lying together "spoon fashion" (which explains the roentgenogram), and a hairpin, some straw and small pieces of twigs lay around them After removal of the spoons and debris, the stomach was carefully examined for possible injury Other than a rather large ptotic organ and a hypertrophied and congested mucous membrane, however, no evidence of injury was found The spoons, which were of plated Utah metal, were not bent and showed no erosion They were a little larger than a standard teaspoon, being 6 inches in length and 1½ inches across the bowl The patient made an uneventful recovery

---

A Medicolegal Judgment.—In Ontario recently a woman, on each of whose breasts an operation had been performed, brought action for damages against the surgeon who performed the operation The patient consulted her physician about a lump in one of her breasts He found another lump in the other breast and secured her consent to the removal of both lumps Some time after the operation, trouble arose in the arm of the second side operated on The surgeon was accused of doing an operation in which consent had not been given The presiding judge, after hearing a considerable amount of evidence, held that a surgeon is justified in performing a second operation under circumstances in which the case demands more be done than first detected or revealed, in fact he might be open to blame if he did not perform such operation if it could be shown that such operation was necessary for the cure of the patient

CAULIFLOWER EAR

DON H PALMER, M D
SEATTLE

I first became interested in "cauliflower ear" ten years ago, because of the interest I have always taken in athletes and athletic sports At that time I encountered all the difficulties which those who have undertaken the treatment of such cases have experienced

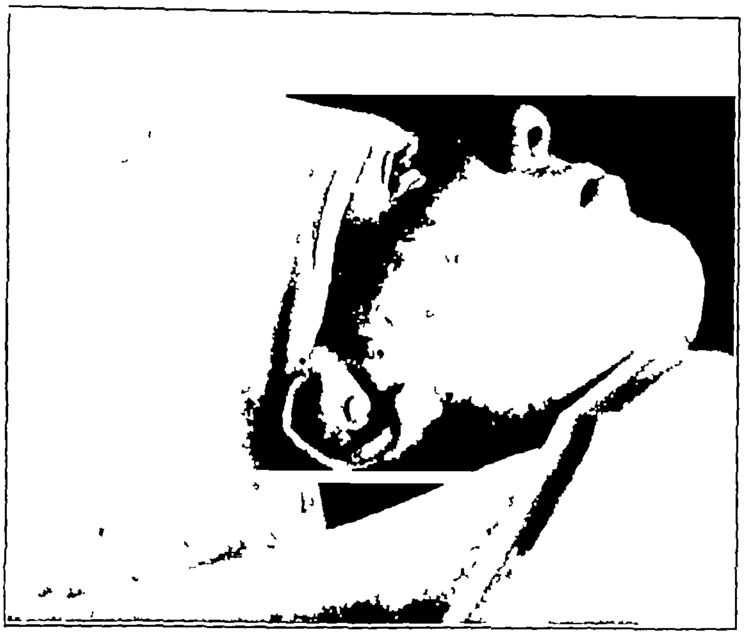


Fig 1 —Ready for operation, with points of injection for anesthesia and proposed incision indicated

I tried the various published methods of treatment, such as pressure applied to the ear in every conceivable manner, both before and after aspiration, in hot, cold, wet and dry compresses with tight bandages, collodion, sodium silicate, starch and paraffin dressings

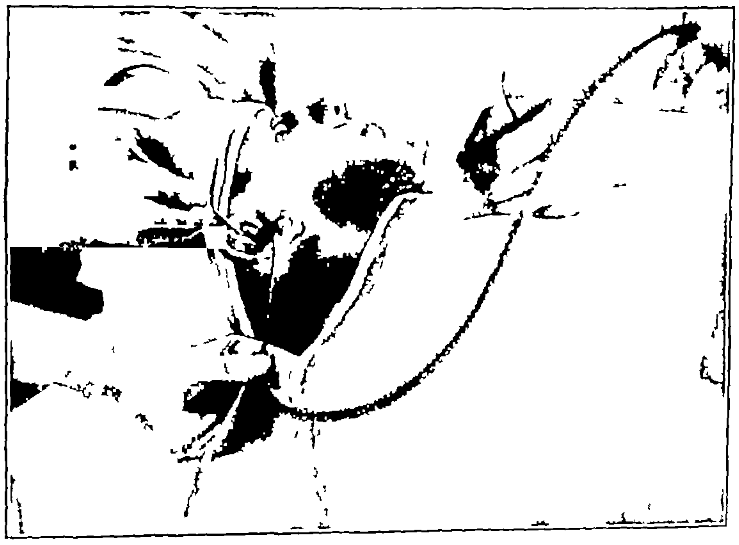


Fig 2 —Approximating the skin and perichondrium to the cartilage by negative pressure

I used drains of catgut, silkworm gut, rubber tissue and gauze, with the same unfortunate results, until about five years ago I began the use of my present method

ETIOLOGY AND PATHOLOGY

From a careful history and the physical findings, I consider every case of traumatic origin The degree of trauma required is extremely variable, just as in the case of bone fracture I believe the commonest cause of the injury is a glancing blow which folds the ear on itself and rolls it against the skull A careful examination will always reveal a fracture of the cartilage at the site of one or more of the heavier eminences, commonly the antihelix

The perichondrium which is more fibrous and elastic is not broken, but is stripped from the cartilage, always on the anterior surface where it is more loosely adherent

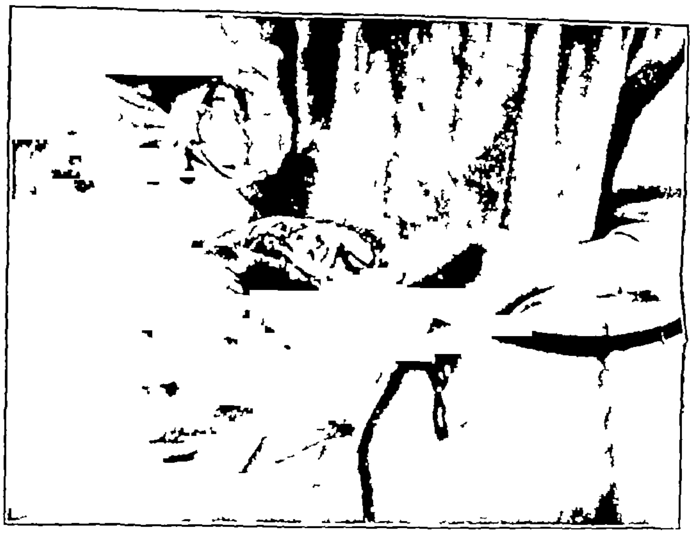


Fig 3 —Plaster cast being applied, showing mold behind the ear Catheter still in position and negative pressure continuous

The hemorrhage accompanying the injury continues, raising the perichondrium and skin, thus producing the various degrees of deformity

As time goes on the blood becomes mixed with a clear, viscid, mucoid substance, in the midst of which may be found free clots of blood In from one to four weeks organization takes place, and a sharp chisel or curet is necessary to remove the debris

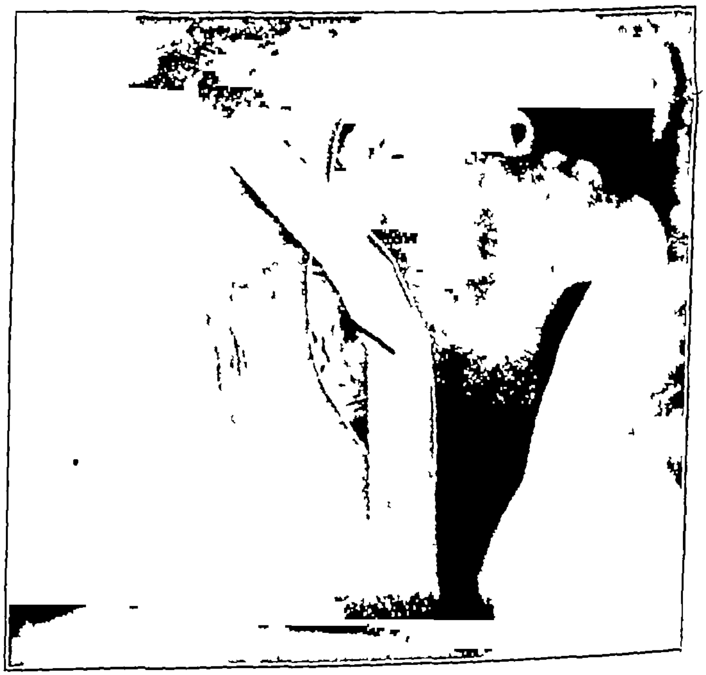


Fig. 4 —Plaster cast held firmly against the head with adhesive plaster Probe in the drainage hole left by withdrawing the catheter

After a few months the organization is complete, and there may be a condition varying from fibrocartilage to solid bone with contractions, which produces the various types of deformity

SYMPTOMS

The subjective symptoms as a rule are not severe, simply pain and tenderness, most marked over the site of fracture, with at times loss of hearing, due to occlusion of the external auditory meatus from swelling After organization, the resultant contracture and deformity produce a type of neurasthenia comparable to that of saddle nose

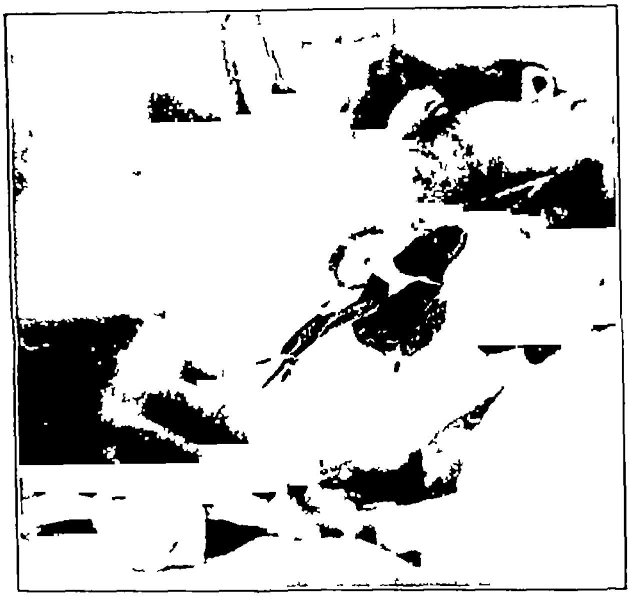


Fig 5—Removal of the cast by fragmentation dental forceps making a very satisfactory tool.

The subjective symptoms of an early case are swelling, discoloration and often crepitus at the site of fracture, in an old case, deformity, thickness and rigidity

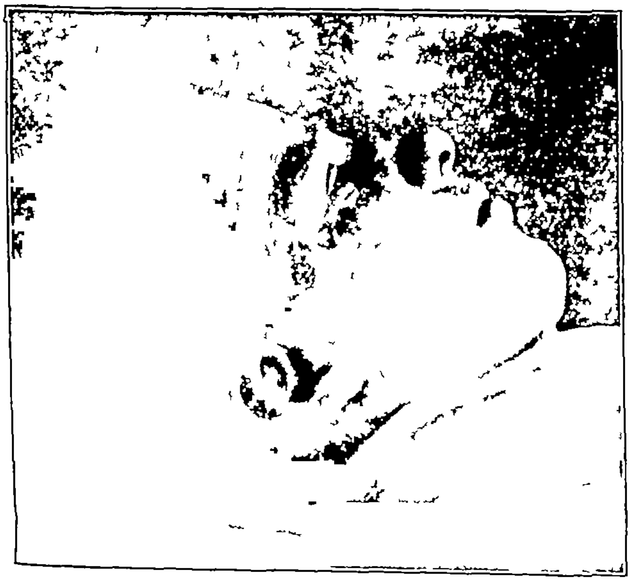


Fig 6—Result ten days following the operation when cast is removed

TREATMENT

After preparing the skin surfaces of the ear, the meatus and immediate vicinity of the face and scalp after any of the approved surgical methods except iodin, which causes intense itching, and plugging the external meatus with cotton, I make an incision under local anesthesia (Fig 1) slightly below the prominent part of the swelling through the skin and perichondrium into the hemorrhagic cavity All clots, newly formed cartilage or bone should be removed with a small gouge or curet, the surface of both cartilage and perichondrium being scraped until smooth

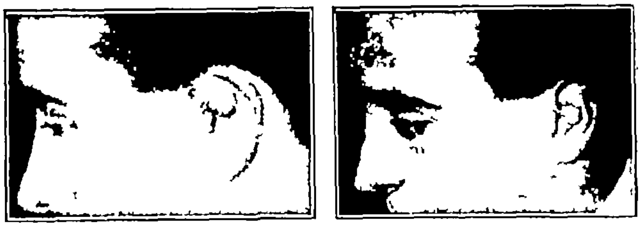


Fig 7—Appearance of ear three weeks after injury and result following operation

The incision is now closed, except for a small opening which will just admit the end of a eustachian catheter, connected through a waste bottle with a small Pynchon pump (Fig 2)

This rapidly removes the accumulated blood, and the suction approximates the loose layer of skin and perichondrium to the cartilage

The skin surface is now thoroughly dried and a fresh plug of cotton is placed in the external auditory canal A generous coating of sterile petrolatum is now applied over both surfaces of the ear and the adjacent skin of the face and scalp

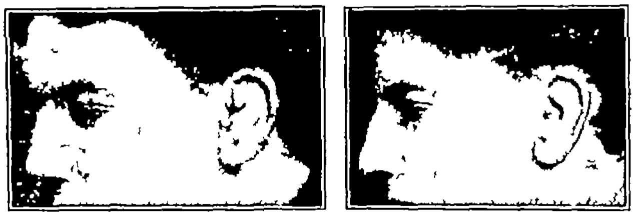


Fig 8—Appearance of ear three months after injury external auditory meatus completely closed tissues organized and result ten days after operation

Should there be any area in which the skin and perichondrium are not perfectly approximated, I make a small mold of dentist's modeling wax or sheet lead and apply pressure at that point

The mold, coated with petrolatum, is now placed about the ear and half a tumblerful of plaster of Paris cream, prepared by an assistant, is poured into the mold, completely surrounding the ear (Fig 3)

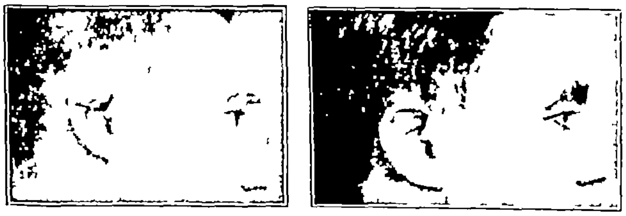


Fig 9—Appearance of ear ten days after injury and result following operation note slight imperfection at the anterior angle of the helix due to defect in cast

We now have the ear completely encased in the plaster, with the eustachian catheter still inside the wound, and the pump working continuously As the plaster hardens, a slight rotary motion of the catheter permits of its easy withdrawal through the cast, and establishes a permanent drain to the wound for the escape of any newly formed fluid

A small piece of gauze over the cast, and an adhesive dressing to prevent all motion, complete the operation (Fig 4)

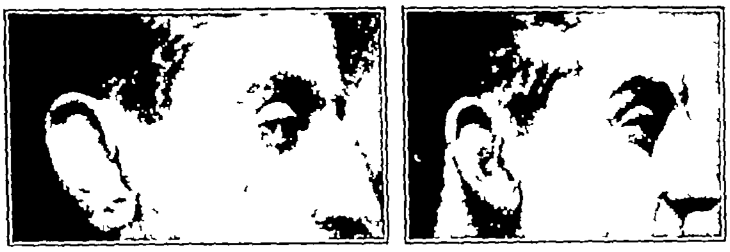


Fig 10—Complete occlusion of external meatus four weeks after injury, and result ten days after operation

The cast is removed by fragmentation ten days following the operation, when the ear will be found in exactly the shape you placed it at the time of the operation, and will require no further attention (Figs 5 and 6)

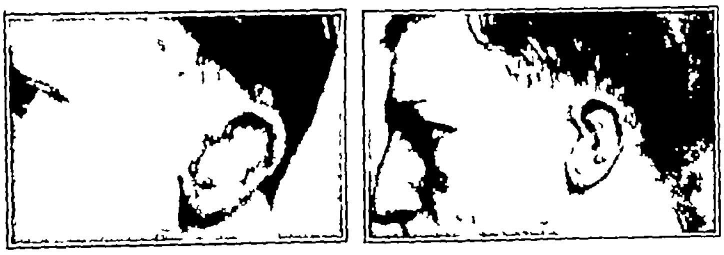


Fig 11—Appearance of ear two weeks after injury, ear badly traumatized in boxing contest on day before operation

In the real old organized cases I make a mold carved from plaster of Paris to represent the normal ear, and with dentist's modeling wax make a die After removal of the foreign substance, and the ear is perfectly soft and pliable, I force the die down on the

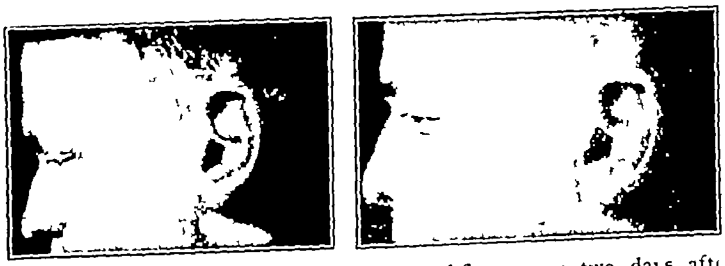


Fig 12—Commonest type of early cauliflower ear two days after injury, and result ten days after operation

anterior surface of the ear, and then encase the whole in plaster of Paris

617 Lumber Exchange

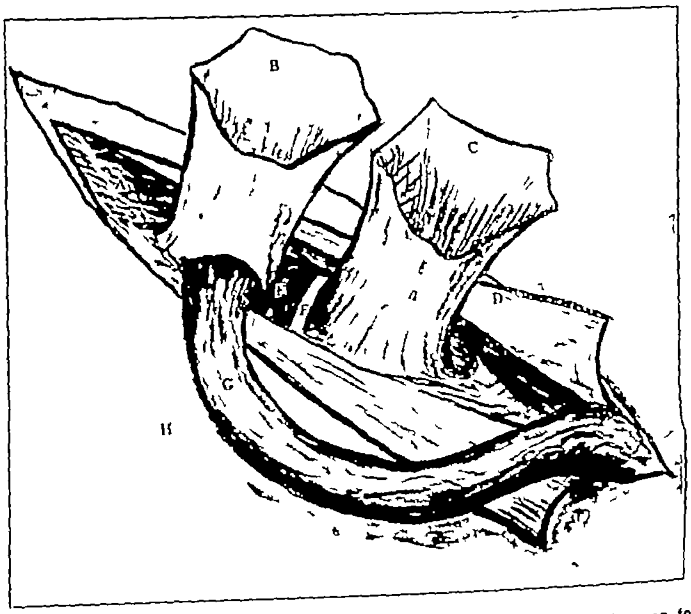
Legal and Social Uses of Birth Registration—The registration of a child's birth forms a legal record that is fre- It quently useful and may be of the greatest importance It establishes the date of birth and the child's parentage It may be required to establish the child's age for attendance at public schools, or for permission to work in states where restrictions are placed on child labor, to show in courts of law whether a girl has reached the age of consent, or whether individuals have attained the age when they may marry without the parent's permission, to establish age in connection with the granting of pensions, military and jury duty, and voting It may be important in connection with the bequeathing and inheritance of property or to furnish acceptable evidence of genealogy, and, in fact may be important and useful in possible events too numerous to mention—J W Trask, *Public Health Reports*, Jan 14, 1916

CASE OF DIRECT AND INDIRECT UNILATERAL HERNIA*

CARLETON DEDERER, A B, M D
Clinician in Surgery, Los Angeles Department, University of California Medical School
LOS ANGELES

This case is reported to call attention to a condition which sometimes confronts the surgeon at the time of operation Inguinal hernia is spoken of as either single or double, the latter term meaning bilateral I think the term "bilateral" is preferable to "double" because in this case the hernia was unilateral, being on the right side, but at the same time it was both direct and indirect, and hence, in one sense, it was double

The patient was a man about 48, and was first seen May 24, 1915 His occupation was engineering, principally drafting He was thin, and had a very nervous disposition, otherwise he had been fairly well About six weeks prior he had noticed a bulging in the right inguinal region This bulging had increased in size following an afternoon of unusual effort in lifting No general symptoms followed



Representation of unilateral direct and indirect hernia just prior to transfixing and tying off both sacs *A*, internal oblique muscle, *B* indirect sac, *C*, direct sac, *D*, external oblique aponeurosis, *E*, deep epigastric artery, *F*, vein G, spermatic cord, *H* skin

the occurrence of the bulging except that the patient's nervousness was somewhat augmented The increase in size of the bulging was associated with some pain, though not severe The mass was spontaneously reducible whenever the patient would lie down He had not worn a truss

Examination revealed a swelling in the right inguinal region, apparently lying in the general path of the inguinal canal The mass was about 2½ inches long and 1 inch wide The lower third was slightly larger than the upper two thirds There was an expansile impulse on coughing The mass was easily reducible Other anatomic structures were normal except that the abdominal muscles on both sides were weak, and also the left inguinal region was slightly weak, though there was no evidence of the presence of a hernial sac on the left side

At operation the incision was made about half an inch above and parallel to Poupart's ligament The external oblique aponeurosis was laid open In freeing the cord from its surroundings in the canal a peritoneal bulging was encountered at a position internal or mesial to the deep epigastric blood vessels.

---

* Read before the Los Angeles County Medical Association, Nov 18, 1915

Before this sac was isolated and opened, search was made for an indirect sac. This was easily found in the usual manner by separating the fibers of the cremasteric fascia from the cord. This indirect sac was isolated and opened. Through the opening in this sac the inner aspect of the inguinal region was explored. This exploration revealed the fact that the first sac seen, which was a direct one, was much larger than had been originally suspected. The two sacs were approximately equal in size, being about 1½ inches long and 1¼ inches wide.

Each sac was transfixed with plain catgut and tied. From that point on the operation was after the method of Bassini with the modification, as recommended by Coley in suitable cases, of a stitch above the cord.

The illustration is a representation of how the two sacs appeared at the time of operation. There was one sac on each side of the deep epigastric vessels. These two sacs were entirely independent of each other.

This case illustrates well the desirability, in cases in which there is an apparent general weakness in the region of the inguinal canal, of making a search for both a direct and an indirect sac on the same side.

It has been remarked that when recurrences follow a Bassini operation, they are generally direct hernias. It is my belief that if the operator had made a search for two sacs at the time of operation in a certain number of those cases, the present large percentage of cures would be increased.

602 Hollingsworth Building

Special Article

WHAT THE CIVILIAN DOCTOR CALLED TO ACTIVE SERVICE WITH THE ARMY SHOULD KNOW

I DUTIES IN THE ZONE OF THE INTERIOR

Should the government require troops above the strength of the regular army and the available militia, it would also require personnel for the medical department to serve with them. This would mean that a call would be made on the services of civilian physicians and surgeons to enter the volunteer or other forces raised. They would be wanted in the same proportion as medical officers of the regular army.

To every regiment of infantry or cavalry four surgeons are assigned by present regulations; for a division, about 23,000 troops, ninety-nine medical officers and 889 hospital corps men. This includes the personnel of the sanitary train which accompanies each division in the field, and is composed of the field hospital and ambulance companies. In addition, personnel will be necessary for the line of communication, and the base and general hospitals, in the service of the rear. This totals a large number of medical officers when we deal with from 200,000 to 500,000 men. It is important to remember that the personnel allowed an army on a peace basis is always inadequate for the same army in time of war. This is better understood when it is comprehended that the sanitary troops, composed of medical officers and hospital corps soldiers, with a regiment or division, are for duty only with such organizations. All the wounded and sick who are separated from the organization must be cared for when evacuated to the rear. Retained at the front they immobilize the army to a greater or less extent. Consequently, we have to start with an army with its allotted personnel of medical officers; soon after taking the field the wounded and sick leaving the army require medical attention away from the field of military operations.

A regular supply service is also necessary to feed and transport them and care for them.

Thus, at present in Europe a division which is once in contact with the enemy and has two or three general engagements in a month will lose from 20 to 60 per cent of its original strength. All the wounded must be eventually cared for, not by the personnel at the front but by a new personnel called into existence by the war for this purpose. In military operations the field is divided, like all Gaul, into three distinct areas or districts in which the troops serve different functions. In the home territory is the service of the interior; here briefly are the mobilization camps where soldiers are recruited, equipped and trained — today in England this can be observed in the so-called Kitchener's armies. Next we have the line of communications, based on home territory with the head near the troops in contact with the enemy, and finally the zone of advance, which is occupied by the actively engaged forces; these are represented today, for example, by the British armies in France, the line of communications, of course, being represented by the sea and rail connections between England and her forces in France. It is to this personnel serving in the rear, the zone of the interior, that most untrained and partially trained medical officers would be assigned. With experience they would expect to be sent to fill vacancies occurring at the front, and on the line of communications.

What are the principal duties of the medical officers in the zone of the interior, where they would find their first detail? This is the question which is of much interest to many patriotic physicians and surgeons who would be liable to service in war. In a general way it is the adjustment of the practice of their profession to military conditions; the study of the soldier and the professional care of him when sick or wounded, and last, but most important, the prevention of disease. There is also through all these duties wherever performed the division into administrative work and medical work proper. As service in the line of communications and the zone of the interior will be the lot of most civilian physicians, at least at first, the duties there will be considered first. We must assume, of course, that a doctor on becoming a medical officer is properly prepared to do general practice; if he has a specialty, so much the better, it will be useful, even pediatrics and gynecology are called on in army posts, and when troops are occupying hostile territory. If any are more important than another, those expert in sanitation and surgery would be of most value.

Among the first duties required of the medical officer after his joining during mobilization is to make the physical examinations of recruits and later of disabled soldiers. The physical examination of the recruit is of the utmost importance; on his physical condition depends the mobility of the army. To insure this, certain standards are set by the War Department as the result of its experience in recruiting and in the field. An honest adherence to these standards is absolutely necessary. They are to be found in the "Instructions for the General Recruiting Service, U S Army," and in general orders and circulars issued from time to time by the adjutant general's office, which should be on hand at the places of examination It must be remembered in making these physical examinations, and many of them have to be made in our country in emergency, as there is no reserve, that not only is the government to be protected against unjust pension claims by excluding the physically deficient at these examinations, but also the exclusion of the recruits suffering from infectious diseases is of the greatest importance It was our experience at the beginning of the Spanish-American War, and in fact during every war, that the recruit brings to the mobilization camp the infection of many diseases, and this is only a natural circumstance, as the young recruit represents the susceptible material in a community He is protected neither by former attacks of disease nor by mature judgment and caution We should be on the lookout, then, for symptoms indicating the presence of the exanthems, tuberculosis, and in the southern communities especially, dysentery and hookworm disease Of course the venereal diseases are omnipresent, and if not always incapacitating or showing open lesions, should be noted, if suspected, for proper treatment

The recruit meeting the physical requirements, when accepted and sworn in, should be immediately vaccinated against both smallpox and typhoid fever When he has been accepted as a soldier, it becomes the business of certain medical officers, in conjunction with the line officers, to look after the health and sanitary conditions surrounding the recruit He must be given sufficient exercise, and, at the same time, immature recruits must be protected against excessive work of a character that might produce heart strain if indulged in without sufficient preliminary training He must keep himself personally clean and also his surroundings, his barracks or tent, his bed clothing That all this is done and done properly and intelligently devolves on the line officer, and a certain amount of it must be supervised and inspected by the medical officer

The soldier is given an opportunity daily at an appointed hour and place to see and consult a medical officer, if necessity requires it Of course emergencies demand medical assistance at any hour, day or night, but for the recruit who is suffering from minor ills or experiencing prodromal symptoms of acute diseases, an opportunity is given to see the doctor at "sick call" As the hour and place are published in orders, and as the location of the hospital or infirmary is a matter of common knowledge in the camp, men ailing may readily find their way

The surgeon misses a great opportunity if he does not realize that this informal consultation, known as sick call, should be taken most seriously It is almost the first point of contact between the medical department and the soldier, and it should be an occasion to obtain his confidence and to learn something of the individuality of the man It is at this point that preventive medicine can be most advantageously practiced It is here that sharp lookout should be kept for the sporadic cases that usher in an epidemic, and it is by the isolation and early treatment of these cases that we prevent disease from spreading in camps or barracks Opportunity is also given for ascertaining the physical condition of the man whether he is in need of special corrective exercises, or whether he is getting too much exercise, whether his teeth are in good condition to masticate the field ration, whether he is suffering from vermin, whether he is bathing and washing his clothes sufficiently, and one of the most important things, whether he is assimilating the food that is furnished him, if he is not, something is wrong — either the food or the digestive system The malingerer and the hypochondriac are discovered at sick call, the young soldier suffering from nostalgia all can be improved by sympathetic and intelligent handling Much of the inner life of the company organization to which the soldier belongs comes out at sick call the relations of the men, the treatment they receive from officers and noncommissioned officers, the quality and quantity of food, the cleanliness of their barracks and persons, whether or not they have been vaccinated against smallpox and typhoid fever, can be ascertained here, and also the presence of venereal disease among the civilians in the nearby communities frequented by the soldier, in brief, sick call is one of the most intimate points of contact between the medical officer and the soldier of the line, and one of the most illuminating to the earnest medical officer

Inasmuch as the barracks at present provided for troops in the United States are barely sufficient to accommodate them, recruiting of new troops will require new shelter for them This is usually provided by tents, the new troops being gathered into mobilization camps where they are given physical examinations, clothed and equipped, vaccinated, and given the instruction which is to turn them into soldiers These camps are places of instruction not only for soldiers but for officers as well, and it is usually here that the civilian physician begins to acquire his first experience in military life He must learn the lessons of obedience and discipline even more quickly and definitely than the soldier, because in his hands reposes more power It is here that the medical officer begins his acquaintance with the supply departments of the army, learns how to obtain equipment and food for himself and the men in his charge, and learns methods of accountability for government property and to unwind the much despised red tape The longer experience and the responsibility of having in his possession considerable amounts of government property will end by convincing him of at least some of the necessity of tying it up in red tape There are times, it is true, when this must be cut through, and the occasion does not permit the untying, experience and good judgment will tell him when

In a general way, the professional duties at a camp of mobilization are not onerous, except for the first set of physical examinations Nevertheless, it is the place to learn how preventive medicine is practiced among troops, to learn the methods of handling the hospital corps soldiers over whom he has control, to learn the methods devised by army officers for handling sick and wounded in the field, and the place to acquire that state of discipline and mental alertness, that goes to make up the character of the soldier as distinguished from the recruit [1]

(To be continued)

---

[1] Books for the perusal of the medical officer Army Regulations 1913, par 1386, pp 269 et seq Manual for the Medical Department (new edition now in print) Straub Medical Service in Campaign Ed 2, United States Field Service Regulations 1914

Aim of the Health Movement.—*Our health ideals should rise from the mere wish to keep out of a sick bed to an eagerness to become a well-spring of energy.*—Fisher and Fisk, "How to Live."

Therapeutics

CARDIAC DILATATION

Degeneration and disturbances of the heart muscle and cardiac dilatation are found more and more frequently at an earlier age than was the case formerly Several factors seem to be at work In the first place, infants and children are now being saved, though they may have inherited, or acquired, a diminished power of resistance against disease and against the strain and vicissitudes of adult life Another important factor is the strenuosity of business life, the rapidity of social life, the tension and speed of the industrial life of both sexes, and competitive athletics in school and college life, to say nothing of the various other excesses of many persons

Acute cardiac dilatation from sudden, severe overexertion is not frequent, but is occasionally seen Hard lifting, running with loads (as two suit cases, to catch a train), persistently attempting to crank a cranky engine, or some severe exertion, as seen in competitive athletics, may cause acute dilatation

Chronic dilatation of the heart, however, perhaps not sufficient to cause edema, slowly and insidiously develops from chronic and persistent strenuosity or from the insidious irritations caused by absorbed toxins due to persistent intestinal indigestion A fibrosis of the heart muscle and of the arterioles gradually develops, and the heart muscle sooner or later feels the strain

It is now not unusual for a physician, in his office, to hear his patient say “Doctor, I am not sick, but just tired,” or, “I get tired on the least exertion” Physicians do not note carefully enough the condition of the heart in patients who are just “weary,” or even when they show beginning cardiovascular-renal trouble

The primary symptoms of myocardial weakening are slight dyspnea on least exertion, slight heart pain, slight edema above the ankles, often some increased heart rapidity, sometimes without exertion, inability of the heart after exertion to return immediately to its normal frequency, slight dyspnea on least exertion after eating, flushing of the face or paleness around the mouth, and more or less dilatation of the veins of the hands All of these are danger signals that may not be especially noticed at first by the person, but if he reports such symptoms to his physician, the latter should not only make a thorough physical examination, but particularly note the size of the heart

If a roentgenographic and fluoroscopic examination cannot be made, careful percussion, with attention to the region of the apex beat, the rapidity and action of the heart on sitting, standing and lying, and the length of time it takes while resting after exertion for the speed of the heart to slacken, will show the heart strength

Slight dilatation being diagnosed, the treatment is as follows

1 Rest, absolute if needed, should be prescribed, and all physical exercise and business cares prohibited

2 The amount of food should be reduced, and the food should be of the simplest Alcohol should be stopped, and the amount of tea, coffee and tobacco reduced

3 If medication is needed, strychnin sulphate $\frac{1}{10}$ or $\frac{1}{30}$ grain three times a day, and tincture of digitalis in 5 to 10 drop doses twice a day, will aid the heart to recover its tone

Such treatment, when soon applied to a slowly dilating and weakening heart, will establish at least a temporary cure and will greatly prolong life

If these heart conditions are not diagnosed and properly treated such patients are liable to die suddenly of “heart failure,” of acute dilatation of the stomach, or of angina pectoris Unsuspected dilated hearts are often the cause of sudden deaths during the first forty-eight hours of pneumonia

The purpose of this article is not to discuss the treatment of high blood pressure, albuminuria or other similar conditions that may be associated with cardiac dilatation This particularly dangerous condition should be more frequently noted and treated Digitalis in such cases rarely raises the blood pressure, and small doses are sufficient If more heart pain is caused, the dose of digitalis is too large, or it is contraindicated Also, digitalis need not be long given especially as Cohn, Fraser and Jamieson[1] have shown by the electrocardiograph that its effect on the heart may last twenty-two days, and never lasts a shorter time than five days They also found that, when digitalis is given by the mouth, the electrocardiograph showed that its full activity was not reached until from thirty-six to forty-eight hours after it had been taken From these findings it will be seen that if it is necessary to give a second course of treatment with digitalis, within two weeks at least from the time the last dose was given, the dose should be much smaller than at first

If individuals of our strenuous life who are over 40 would, once or twice a year, present themselves for a heart and other physical examination, there would not be so many sudden deaths of those thought to be in good health It may be a fact, as asserted by many clinicians, that chronic myocarditis and fatty degeneration of the heart cannot be diagnosed by any special set of symptoms or signs It is a fact, however, that a pretty accurate estimate of the heart strength can be made by a careful physician, and if danger signals are noted and signs of probable heart weakness are present, life may be long saved by good treatment rigorously applied The patient must cooperate, and be harshly warned of his condition Many such patients, noting their impaired ability, do not seek medical advice, but, thinking all they need is more exercise, they walk, golf and dance to excess and to their cardiac undoing

---

[1] Cohn A E Fraser F R and Jamieson R A The Influence of Digitalis on the T Wave of the Human Electrocardiogram Jour Exper Med 1915 xxi 593

A Wreath for Trudeau

“Trudeau is dead” The broken words
Whispered along the thread of wire
Fell on my ears A smile, wraithlike,
Slunk away The lilt of a song
Ceased The sun struck across my desk,
Unseen, for “Trudeau is dead”

A comrade, whistling merrily,
Flung into my room, then, seeing
My bowed head and sorrow, withdrew
A car buzzed shrill in the alley,
A newsboy caroled in the street,
But Trudeau is dead'

The east wind tapped at my casement,
Footsteps rang down the corridor,
Familiar sounds of the city
Went to and fro, but I, I sat,
Sphinxlike, companioned by my grief,
For Trudeau is dead'

—Paul Lyman Benjamin

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION

535 North Dearborn Street . Chicago, Ill

Cable Address . 'Medic, Chicago"

Subscription price Five dollars per annum in advance

Contributors, subscribers and readers will find important information on the second advertising page following the reading matter

SATURDAY, FEBRUARY 5, 1916

FASHIONS IN SUICIDE

The use of poison has always been a prominent method employed by those who voluntarily destroy their own lives According to the Bureau of the Census, the number of suicides reported in 1914 was 10,933, or 16 6 per hundred thousand population Of this number 3,286 accomplished self-destruction by the use of firearms, 3,000 by poison, 1,552 by hanging or strangulation, 1,419 by asphyxia, 658 by the use of knives or other cutting or piercing instruments, 619 by drowning, 225 by jumping from high places, 89 by crushing, and 85 by other methods

Writing a generation ago, the English analyst Blyth[1] said, "The higher the mental development of a nation, the more likely are its homicides to be caused by subtle poison — its suicides by the euthanasia of chloral, morphin or hemlock" In accord with this, among the substances employed by 1,000 male and female suicides by poison in England during the ten years 1871-1880, the opiates take first place, with a total of 423 victims, cyanids following in the second place Phenol and strychnin also stand high in the list Arsenic no longer appeared to be the favored medium of suicide that it was in the earlier years, and phenol (carbolic acid) was beginning to come into vogue

According to statistics of the cases of suicide in New York City by poisoning due to the principal drugs for the past twenty-five years,[2] we must assume either that the expected higher mental development of the inhabitants of the great metropolis has not been realized or that there is an independent fashion in the methods of suicides The data compiled by Lambert and Patterson[2] show that poisoning by arsenic and Paris green, once favorites in this country, and by phenol, which was the most prominent suicidal poison in New York during the decade 1895-1905, are on the decrease The use of opium for the same end has never been really extensive during this period, and remains stationary Poisoning, with intent, by illuminating gas is becoming more prominent year by year, and of late the use of mercuric chlorid is on the increase Of the 155 cases of suicide by mercuric chlorid recorded in New York City in the past twenty-five years, 73, or nearly half of them, have occurred in the past two years The figures for the last five years in a total of 2,126 are as follows Paris green and arsenic, 48, phenol, 154, opium and morphin, 29, mercuric chlorid, 104, illuminating gas 1,554, other poisons, 237 The recent increase in the use of mercuric chlorid for purposes of suicide is attributed by Lambert and Patterson largely to the newspaper notoriety which was given to a case of accidental poisoning occurring a few years ago They remind us that the public was instructed in all the details of the symptoms, and that great stress was laid, not only on the certainty of the fatal outcome, but also on the painlessness and lack of suffering which accompanied the week-long illness of the victim This appears to have appealed to would-be suicides Evidently there are other factors than toxicologically intelligent selection which dictate the choice of poisons by modern suicides, even in a great metropolitan district

THE ACTIVITIES OF MUNICIPAL HEALTH DEPARTMENTS

An investigation of health departments in 219 cities of the United States has recently been completed by the Department of Surveys and Exhibits of the Russell Sage Foundation[1] The investigation, which was carried on entirely by mail, was limited to cities having a population of 25,000 and over, according to the census of 1910 There are 227 such cities, and reports were received from all but eight of those addressed The questions asked concerned appropriations, infant hygiene work, laboratory service, health, education and publicity, control of venereal diseases, housing regulations, dispensary service, tuberculosis work, industrial hygiene, and the number of privies

The figures with regard to appropriations excluded all funds applied to hospitals, sanatoriums, plumbing inspection, street cleaning, removal or disposal of dead animals, refuse, garbage or night soil, and any other unusual expenditures of indirect hygienic value The average per capita expenditure was 32 7 cents Excluding New York, this figure drops to 27 3 cents per capita The largest figure was that of Seattle, 98 cents, the smallest that of Clinton, Iowa, 0 75 cent Memphis spent 93 cents, Augusta, Ga , and Pittsburgh 61 cents, and New York 58 cents Among other small expenditures were Easton, Pa , 2 cents , Aurora, Ill , and South Bend, Ind , 3 cents , Woonsocket, R. I , 4 cents, and Lewiston, Me , 6 cents Relatively the larger appropriations are in the Southeastern states, and the smaller in the North Central states

---

[1] Blyth, A W Poisons, Their Effects and Detection, New York, 1885, i, 28

[2] Lambert, S W , and Patterson, H S Poisoning by Mercuric Chlorid and Its Treatment, Arch Int Med , November, 1915, p 865

[1] Schneider, Franz, Jr A Survey of the Activities of Municipal Health Departments in the United States, Am Jour Pub Health, 1916, vi, 1

Summarizing the results of the questionnaire, it is found that one fifth of the cities made no inspection of schoolchildren, over a third did not offer the ordinary laboratory diagnosis for common communicable diseases, over a fourth made no effort to educate in health matters, nearly three fourths had no housing law, nineteen twentieths did not consider the hygiene of industry, over six sevenths had no program against venereal diseases, and one half had no proper organization to combat infant mortality

The report is notable for its surprises One would surely have expected tuberculosis to occupy a foremost place in most health work, and yet only 33 9 per cent of the cities report the comprehensive control of this disease The best work appears in Eastern cities, and probably reflects the antituberculosis campaigns of private organizations It is an excellent example of the important part that private effort may take for defining the way of municipal activities

Still more surprising is the rank of the cities geographically, the Southern and Pacific cities far outranking all others The cities with poor health programs are invariably the cities with scanty appropriation — and few of the cities with low appropriations are situated west of Illinois or south of Indiana

But there is one great shocking fact which probably is not generally realized In 219 cities with a population of 29,488,321, there was spent during one entire year, for actual constructive and preventive health measures, only $9,650,515, or a sum rather less than the mere cost of one battleship

No attempt was made to determine the efficiency of the work of the various health departments, but merely to find out whether or not certain lines of study were being followed Certainly the results show that public health work in this country is still in its infancy, and that the appropriations granted to most health departments are grossly inadequate for the functions which they are expected to perform, in view of modern scientific knowledge with reference to health

PROGRESS IN THE MILK INDUSTRY

More than half a century has elapsed since the passage of the first more general regulations for the protection of the milk supply in this country Probably the first dairy laws were those enacted in Massachusetts in 1856 against the adulteration of milk by adding water, and in 1859 prohibiting the feeding of brewery waste to cattle During the latter year the appointment of dairy inspectors was authorized, and in 1880 a minimum standard was fixed for total solids in milk[1] In the earlier days much of the official activity in relation to milk was of the nature of inspection which assumed the character of routine police work Gradually milk inspection duties have assumed a constructive and educational character, quite as much as a mere regulatory function They are being based on a foundation of scientific research in which such branches as physiologic chemistry, bacteriology, human and veterinary medicine, sanitary science, rural hygiene, economics and practical dairying are involved It has been said that the response of dairying to the progress of investigation has perhaps been more rapid than that in almost any other branch of agriculture Here, to a very notable extent, the rule of thumb has given way to the rule of reason, and the industry has progressed as a result of a clearer understanding As it has become a more intelligent industry, so it has likewise become a more technical and complicated one, success requiring higher skill and superior judgment, and more attention to the ultimate use of the product

Milk is not merely a perishable food, used extensively in the feeding of invalids and infants in which it is almost indispensable, it is also a product singularly susceptible to contamination and liable to play a part in the transmission of disease The importance of the efforts to safeguard the milk supply against adulteration and unhygienic dangers is further emphasized by the facts in regard to the volume of the industry involved In 1909, 4,260,324,206 gallons of milk were consumed as such in this country This represented an estimated value to the producer of $647,569,279, and to the consumer of $1,463,847,397

Regulations involving the sanitary conditions under which cattle producing milk are kept, as well as the condition of the premises on which milk is produced and handled, began to be enacted as early as 1895 Contemporaneous with the development of this inspection movement was the growing interest in the subject on the part of the medical profession, as exemplified in medical milk commissions These numbered about seventy-five in 1914 They have been instrumental not only in the production of what is now familiarly known as "certified milk," but also in educational propaganda which has been very effective in improving and appreciating the quality standards of the milk sold in many cities The subject of pasteurization has been broadly ventilated, and the entire practice put on a rational basis The question of bovine tuberculosis has been faced in a scientific way Popular prejudices like those against milk from silage-fed cattle have been modified to fall in line with the best suggestions of animal nutrition, dairy bacteriology, economics and sanitary science Some of the changes initiated have resulted only after considerable friction between the financial and the hygienic interests concerned This, however, is not a new experience in the attempts of scientific knowledge to modify current procedures Inertia is found in all walks of life The gratifying feature of the modern milk industry is that it truly represents the application of scientific investigation Progress has been based for the most part on study rather than mere empiricism, and the possibilities of popular education in scientific matters have been exemplified in a degree that is both significant and encouraging To quote a recent writer, success does not flourish under an attitude of antagonism growing out of compulsion, but under one of cooperation The inspection agencies have thus been a medium of instruction, and the experiment stations in their investigations have had the producer in mind quite as much as the consumer, in order that he might improve his business in producing a better quality of product

---

[1] These and other statistical facts in this editorial are taken from a report of the Fourth Convention of the International Association of Dairy and Milk Inspectors Experiment Station Record 1915 xxxiii 701

DAKIN'S DISCLAIMER OF NOVELTY IN THE "NEW ANTISEPTIC"

Some time ago The Journal commented[1] on the alleged discovery of a "new antiseptic," credited to Drs Carrel and Dakin, which was at that time receiving attention in the medical as well as the lay press This preparation is produced by the action of sodium carbonate on a solution of chlorinated lime, the resulting fluid, after being siphoned off from the precipitate of calcium carbonate and filtered, is neutralized with boric acid It was stated that the solution thus produced is essentially the familiar solution of chlorinated soda (Labarraque's solution), the only novelty being the use of boric acid for neutralization Chlorinated lime and Labarraque's solution are well-known disinfectants, and their use in surgery is not unknown, although both are alkaline and thus destructive of tissues except when applied in highly dilute solutions

In a recent article,[2] Dr Dakin notes that the so-called "new antiseptic" was discovered by Berthollet in 1788 Dakin shows by quotations from his original communication to the Academie des sciences that no claim of originality in the method was put forward at the time it was announced by him, the alleged discovery was a newspaper-manufactured sensation The various counterclaims to priority in the use of this disinfectant are all a waste of ink and paper "It would seem," says Dakin, "as if the time was fitting for a statement that what we have all been striving for is to find the best means of preparing, preserving and applying the powerful antiseptics, hypochlorites and hypochlorous acid, the main properties of which substances were discovered by distinguished French chemists many generations ago" In this connection Dakin refers to the methods of Lorrain Smith, who aims at a liberation of free hypochlorous acid by the addition to chlorinated lime of an equal weight of boric acid, to that of Lumiere, who uses three parts boric acid to one of chlorinated lime, and to that of Hertz-Boyer and the staff of the French hospital ship *Charles Roux* The latter have used for surgical dressings a hypochlorite solution prepared by the electrolysis of sea water Dakin says that, as compared with Lorrain Smith's and Lumière's preparations, his own mixture contains less free hypochlorous acid and a smaller concentration of available chlorin, and that it can therefore be more freely and continuously applied Delbet and Quénu[3] believe, by the way, that the virtue of sodium hypochlorite solutions as surgical dressings resides largely in the irritant actions on the tissues, and that consequently Dakin's solution is the less effective because of the absence of alkalinity which is its special characteristic

Dakin points out that the antiseptic action of hypochlorous acid is generally attributed (by others) to its decomposition in the presence of organic matter with the attendant liberation of oxygen He believes, however, that the antiseptic action is due, not to the liberation of oxygen, but to the formation of chloroimido ($> NCl$) groups in the protein, and that these in turn may cause the antiseptic action In either case, however, according to the modern electron conceptions, the reaction would be interpreted as one of oxidation

Dakin quotes from the *Lancet*[4] the statement that recent results "confirm the conclusions of various investigators that hypochlorous acid is the most powerful antiseptic known" Such a statement, he remarks, unless qualified as to the conditions under which the antiseptic acts, is meaningless It should be remembered that disinfection is a chemical reaction, and the reagent acts, not only on the bacteria, but also on the medium in which they are found An antiseptic which shows high relative activity under one set of conditions may show a low one under other conditions Hence, no just comparison of the relative power of antiseptics can be made except under comparable conditions The one conclusion which all results appear to justify here is that hypochlorites, whether applied in an acid solution, as by Lorrain Smith and Lumiere, in an alkaline solution, as advocated by Delbet and Quenu, or in a neutral solution, as used by Carrel and Dakin, are of genuine value in the treatment of infected wounds

FEATURES OF PITUITARY FUNCTION

Out of the bewildering mass of data derived in recent years from a diversity of sources in regard to the so-called ductless glands, some order is beginning to assert itself One by one the functions of the "internal secretions" of what have lately been designated as the endocrine glands — the thyroids, parathyroids, suprarenals, pituitary, etc — are being unraveled by experimental investigations or clinical observations, or, in favorable instances, by a happy combination of the two methods Part of the work of progress has consisted in casting aside untenable theories and unreliable statistics as well as subjecting the more promising suggestions to rigid scientific tests

---

[1] The So Called New Antiseptic, editorial, The Journal A. M. A., Sept 4, 1915, p 880

[2] Dakin, H D The Antiseptic Action of Hypochlorite, Brit. Med Jour, Dec 4, 1915, p 809, abstr, The Journal A M A, Jan 8, 1916, p 150

[3] Paris Letter The Journal A M A Dec. 11, 1915, p 2101

[4] Lancet, London, Aug 14, 1915, p 347

In connection with their extensive experimental studies on the role of the pituitary, Cushing and his collaborators have noticed a marked tendency of animals to pass into a profoundly lethargic state after a total or nearly total surgical removal of the glands[1] When the extirpation is not quite so complete, the symptoms are not quite so severe, and it has been observed that a pronounced lethargy with coincident fall in body *temperature is more apt to supervene in the winter* months than after similar operations in the warmer seasons It was ascertained, however, that the fall of temperature is characteristic of the condition, regardless of the temperature of the environment

The associated symptoms of the experimental states of hypophysial insufficiency were the lethargy, the subnormal temperature, slow pulse and respiration, lowered blood pressure and insensitivity, furthermore, there was a tendency in individuals surviving a considerable though incomplete deprivation of the pituitary gland to become adipose and lose their sexual activity The latter symptoms have furnished an explanation of the clinical syndrome known as dystrophia adiposogenitalis by coordinating it with hypophysial insufficiency[2]

The phenomena described bear a striking resemblance to those instances of pronounced natural somnolence which are familiar to us in the case of hibernating animals The capacity for seasonal lethargy such as is exhibited by the woodchuck, or North American marmot, is evidently acquired in order to adapt the individual to periodic conditions, such as a seasonal diminution of food supply unfavorable to life Hibernation is apparently not merely the result of exposure to cold The "winter sleep" is often begun before the rigors of climate set in, it cannot be induced by low temperature alone, and, *furthermore, there are* species which seem to have a period of summer sleep The food element is much more likely to be a determining one Cushing and Goetsch[3] have pointed out that such attempts as have been made to relate these two extracorporeal factors — low external temperature and diminished food supply — to the problem of hibernation under experimental conditions have given results that are not entirely convincing These investigators at the Peter Bent Brigham Hospital, accordingly, have turned their attention to the ductless glands of hibernating animals and discovered that, during the dormant period, histologic changes are apparent in many of them In accord with earlier observations by Gemelli,[4] they have observed that the pituitary not only diminishes in size, but the cells of the pars anterior in some animals at least completely lose their characteristic staining reactions to the usual histologic dyes At the end of the dormant period the gland swells, and as the cells enlarge they again acquire their differential affinity for acid, basic and neutral stains At the same time evidences of renewed development may appear in the form of karyokinetic figures On the basis of such tissue changes, one may readily postulate, during their continuance, a condition of diminished hypophysial activity which could become responsible for the typical sequence of symptoms, including retardation of metabolism, inactivity of the reproductive glands, and somnolence, precisely as they are seen in induced hypopituitarism

We are reminded by Cushing and Goetsch that the occurrence of such seasonal waves of inactivity on the part of certain members of the ductless gland series is no more remarkable than the periodic waves of inactivity or activity in the case of other glands, such as those concerned with reproduction Hibernation, according to the Boston investigators, may thus be ascribed to a seasonal physiologic wave of "pluriglandular activity" The essential role is perhaps to be ascribed to the pituitary, they suggest, not only for the reason that the most striking histologic changes appear in this structure, but also because deprivation of the secretion of this gland alone of the entire series of ductless glands produces a group of symptoms comparable to those of hibernation The subject is not *without direct human interest, for it is stated that even* man appears to have a certain capacity for what may be called winter sleep This is shown by the experiences of those in the arctic regions, and also among peasants in certain parts of Russia who, during the winter months when there is a scarcity of food, are said to pass weeks at a time in a somnolent state, arousing once a day for a scanty meal[3] With the tardy performance of the pituitary and the effects of invasion by the hookworm already disclosed, we shall soon be in a position to excuse the lethargy of a variety of human individuals on physiologic rather than temperamental grounds

---

CAFFEIN AND ASTHMA

In its general behavior as a nerve stimulant, caffein acts on the medullary centers As a result, respiratory activity may be markedly accelerated, in part owing to an increased sensitiveness of the respiratory center, and in part, perhaps, because of an increase in the irritablity of the respiratory muscles "The Pharmacology of Useful Drugs," reprinted from THE JOURNAL,[1] states that "caffein is one of the best respiratory stimulants because the stimulation has little tendency to pass into depression even with large doses" In marked cases of depression of the respiratory mechanism, as from alcohol or in morphin narcosis, caffein accordingly forms a splendid antagonistic drug

---

[1] Crowe S J Cushing H and Homans J Experimental Hypophysectomy Bull Johns Hopkins Hosp 1910 xxi 127 abstr, THE JOURNAL A M A June 4 1910 p 1905

[2] Cushing H The Hypophysis Cerebri Clinical Aspects of Hyperpituitarism and of Hypopituitarism THE JOURNAL A M A July 24 1909 p 249

[3] Cushing, H and Coetsch E Jour Exper Med 1915 xxii 25

[4] Gemelli A Arch p le sc. med 1906 xxx 341

[1] Hatcher R A and Wilbert M L The Pharmacology of Useful Drugs Chicago 1915 p 49

Some time ago Pal[2] attempted to establish the truth of the assertion that caffein will overcome artificially induced bronchospasm, which is the counterpart of the familiar condition known as asthma He explains the alleged effect by the supposition that the drug stimulates certain branches of the sympathetic system peripherally and in this way effects a dilation of the bronchioles and overcomes the bronchospasm At best the methods of treating asthma are far from satisfactory, so that every new suggestion based on what seems to be rational pharmacology deserves careful investigation

The most commonly accepted explanation of the contractions of the bronchial musculature seen in asthma nervosum attributes them to an exaggerated reflex excitability of the vagus center for the bronchioles[3] Atropin and lobelin at present find use in the treatment of asthma when it is sought to paralyze the vagus in the bronchi by the drugs

Shall caffein be added to the list? Newer experiments in the physiologic institute of the University of Berlin[4] speak clearly against the probability of advantage from this substance It is true that when an experimental condition of bronchospasm is artificially instituted by the use of suitable drugs like muscarin, a slight transitory remedial or antagonistic effect is obtained from large doses of caffein This is in no way comparable to the antiasthmatic manifestations of atropin Moreover, the seat of action of caffein is central, not peripheral, where the objectionable contractile phenomena are actually involved The caffein, in other words, merely stimulates the respiratory center to increased effort; it does not relieve the bronchospasm directly At all events, its anticonstrictor effects are too feeble to put caffein into the class of drugs along with the more familiar products adapted to the relief of typical asthmatic symptoms

---

[2] Pal, J Ueber die Wirkung des Kaffeins auf die Bronchien und auf die Atmung Ein weiterer Beitrag zur Kenntnis des experimentellen Bronchospasmus, Deutsch med Wchnschr, *1912, No 38*

[3] Einthoven, W Arch f d ges Physiol, 1892, li 367 Brodie, T G, and Dixon, W E Tr Path Soc., London, 1903, liv

[4] Weber, E Neue Untersuchungen uber experimentelle Asthma und die Innervation der Bronchialmuskeln, Arch f Physiol, 1914 Meyer, F Physiologische Untersuchungen über Kaffein als Asthmamittel, ibid, 1915, p 1

Paratyphoid Fever—L Giroux reports that during the last few months he had two cases of typhoid in his service, these men had not been vaccinated against typhoid During this period he also had fifty-seven cases of paratyphoid fever, all in men vaccinated against typhoid, and two in this group developed orchitis and epididymitis at the same time The genital affection persisted for several weeks, entailing suppuration in one case The genital complications in one developed at the height of the fever, in the other not until two or three days after defervescence His report is published in the *Bulletins de la Société medicale des hôpitaux de Paris,* 1915, xxxix, 760

Current Comment

CLINICAL CLERKS AND SUPERVISION

Much has been written of late in regard to the clinical clerk system in England, and a similar arrangement is being quite generally established in the teaching hospitals in the United States A careful supervision of such work, however, is highly essential While in the senior year valuable clinical training can be furnished through a properly conducted clinical clerk system, without adequate supervision such courses may be worse than useless It is no less important that the work of medical students throughout the four-year course should be carefully supervised than it is that it be carefully graded It is of particular importance that no student, even in his senior year, should be permitted to visit, examine or prescribe for hospital patients unless that work is supervised by a member of the attending staff, preferably one who is a member of the active teaching faculty of the medical school Without such careful oversight, experience shows that the clinical clerk system leads to a confusion and irresponsibility which is demoralizing to the student and dangerous to the patient Not until the student has graduated and entered the hospital as an intern should supervision of his work be relaxed, and even then only partially The intern year should be the final step in the student's graded and supervised clinical work, after which he may be permitted to assume full responsibility for the care of the sick If the student's work in clinical diagnosis, in dispensary clinics, in section clinics at the bedside, in his service as a clinical clerk, and in his intern year is so graded as to give the student a gradually increasing knowledge and technic, he could likewise be permitted to assume a gradually increased responsibility for the examination and care of patients If this is done under the supervision of skilled teachers, the future graduates in medicine in this country will be far better qualified to assume the responsibility of treating the sick than has heretofore been true

THE TOXICOLOGY OF BENZENE

The best way to dispel any uncertainty regarding the cause of death by foreign substances is to discover the offending invader in the body itself When a metallic poison like arsenic or a toxic alkaloid like strychnin can actually be isolated from a dead body in quantities sufficient to constitute a fatal dose, no further evidence of the source of harm is ordinarily required There are poisons, however, which evade detection because they are susceptible to rapid change in the organism, while still other harmful substances may elude identification because of the inadequacy of some of the technical methods at present employed in toxicologic analysis This appears until lately to have been the case with benzene (benzol) which, though not as yet an important source of danger in this country, is now becoming more conspicuous as a cause of poisoning in man Benzene, which is a definite chemical compound (C_6H_6) derived from coal tar, must not be confused with benzin, a mixture of volatile hydrocarbons derived from petroleum The older textbooks on toxicology have little to say about benzene or the hydrocarbons that commonly accompany it in the industries A growing source of danger lies in the inhalation of benzene vapors When benzene is taken by the mouth it appears to be poorly absorbed A part is said to be excreted by the lungs, and a small fraction may even be oxidized slowly in the body[1] At the pharmacologic institute of the University of Berlin, Joachimoglu[2] has succeeded in perfecting a method for detecting benzene and measuring the quantity present in animal tissues By this means, interesting facts regarding the distribution of the poison in the body have now become available It has been demonstrated that in benzene intoxication the brain and spinal cord contain relatively more of the organic poison than do any other organs This is without doubt related to the fact that, owing to its solubility in fats and fatlike compounds, benzene has a natural "affinity" for the lipoid of the nervous tissues The same distribution, for comparable reasons, has been made for chloroform[3] and acetone[4] Similar findings are also to be expected in the case of toluene (toluol, methyl benzene) which, though chemically closely related to benzene, has less practical importance with respect to the possibilities of industrial poisoning

THE DETROIT SESSION

While it is probably not necessary to remind the Fellows of the Association that the next annual session will be held in Detroit, June 12-16, attention should be called to the present indications that the attendance at the Scientific Assembly this year will be very large A big meeting has been prophesied ever since Detroit was named as the place of meeting, and as arrangements have progressed, assurances have multiplied to substantiate this expectation A year ago, the Scientific Assembly was held on the Pacific Coast, the year before, on the Atlantic Coast at Atlantic City, at which point the Association has held its annual convention six times since it last met in Detroit twenty-four years ago The place of meeting this year is near to the center of the medical population of the country It is in a city, seventh in population of the cities of the United States, conveniently located for a visit by rail, boat or automobile Detroit, claiming as it does, to be the first city in automobile production, naturally has provided good roads In a word, Detroit itself will attract physicians Consequently, while the Committee on Arrangements is confident that the hotel accommodations will be ample, it is advisable that those who are planning to attend the annual session this year should follow the suggestion of the Committee on Arrangements[5] and make hotel reservations early, especially if they desire a "room with bath"

INDUSTRIAL INSURANCE

Bills for compulsory health insurance for workers were introduced into the Massachusetts legislature, January 14, and the New York legislature, January 24 These bills, which have been drafted by the American Association for Labor Legislation in cooperation with the special committee appointed by the American Medical Association, will cover any case of sickness or accident not within the scope of the Workmen's Compensation Act, and will apply to manual laborers and to all others earning less than $100 per month Benefits to insured workers will include medical, surgical and nursing attendance, medicine and surgical supplies, cash benefit for a maximum of twenty-six weeks of the year, and a limited funeral benefit Local health associations created under the proposed act for the administration of those benefits would be under the joint control of *employers and insured employees* The bills as drafted represent the results of a three years' exhaustive study of health insurance by the special committee of the American Association for Labor Legislation Much of the best informed opinion of the country is in favor of these proposals The United States Public Health Service, various state departments of health, labor leaders and others strongly advocate health insurance The introduction of these bills marks the inauguration of a great movement which ought to result in an improvement in the health of the industrial population and improve the conditions for medical service among the wage earners It is the duty and the privilege of every physician to study this important question and to express his opinions either to the committee appointed by this Association or to the American Association for Labor Legislation

THE VALUE OF ESTIMATIONS OF CREATININ IN THE BLOOD

The recent development of methods for the determination of renal functioning has been so extensive that clinicians may almost be said to face embarrassment in preferring one procedure to another The earliest plan for ascertaining the degree of kidney efficiency consisted in determining in the urine the extent of excretion of various substances such as lactose, iodids, creatinin and phenolsulphonephthalein Lately the complementary method of searching in the blood for the possible retention of waste products which should normally be eliminated promptly has become popular, owing to the perfection of simple and relatively accurate micro methods for the estimation of urea, uric acid and other forms of nonprotein nitrogenous blood constituents Obviously it would be inadvisable to direct attention to substances, like sugar, which may undergo an augmentation in the blood as the result of endogenous contributions rather than because of altered renal efficiency The more any of the excreted substances or blood components are likely to be subject to the influence of the varying food factor or tissue disturbances the less are they specifically adapted to serve as indexes of renal function alone *Nephritis with retention is accompanied* not only by an accumulation of urea in the body, but also by other nitrogenous waste products, notably urates and creatinin Myers and Lough[1] of the New York Post-Graduate Medical School have lately directed attention to the special value of the estimation of creatinin in the blood as a diagnostic aid in the study of nephritis They intimate that practically in this disease alone are high values for creatinin encountered Thus in gout with its retention of uric acid in the blood there appears to be no appreciable retention of creatinin In view of these facts and the relatively easy method for estimating the compound colorimetrically in a small volume of blood, the subject deserves prominent notice The marked retention of creatinin in the blood in uremia has been noted independently by several groups of investigators, so that there is little doubt that the permeability of the kidney to this compound may be decidedly decreased in nephritis According to Myers and Lough, the creatinin rises above 2 5 mg per hundred c c of blood almost without exception only in cases of renal involvement Creatinin values from 2 5 to 3 mg may be viewed with suspicion, figures from 3 to 5 mg are to be regarded as unfavorable, while more than 5 mg probably indicates an early fatal termination

---

[1] Nencki M and Giacosa P Ueber die Oxydation der aromatischen Kohlenwasserstoffe im Thierkorper Ztschr f physiol. Chem, 1880 iv 325

[2] Joachimoglu G Ueber den Nachweis des Benzols in Organen und seine Verteilung im Organismus Biochem Ztschr 1915 lxx 93

[3] Nicloux, M Les anesthésiques generaux, Paris, 1908

[4] Archangelsky, C. Ueber die Verteilung des Chloralhydrats und Acetons im Organismus Arch. f exper Path u *Pharmakol.* 1901 xiv, 347

[5] Association News, The Journal A. M A. this issue, p 445

Medical News

(Physicians will confer a favor by sending for this department items of news of more or less general interest, such as relate to society activities, new hospitals, education, public health, etc)

ARKANSAS

Personal—Dr and Mrs David Troy Cheairs, Tillar, will remain until March 6 in New Orleans where Dr Cheairs is doing postgraduate work——Drs Robert E Rowland, Eldorado, and Patrick Murphy, Little Rock, have been appointed assistant physicians at the State Hospital, succeeding Drs Delparde W Roberts and Charles R Doyne, resigned——In a fire which destroyed the S P Thompson Block, Marked Tree, the office of Dr George E Paullus was destroyed with a loss of $1,500, partially covered by insurance

CALIFORNIA

State Board Election—At the annual meeting of the State Board of Medical Examiners in Sacramento, January 11, Dr William R Molony, Los Angeles, was elected president, Dr Arthur M Smith, Oakland, vice president, and Dr Charles B Pinkham, Sacramento and San Francisco, secretary-treasurer

Lane Lecture—The thirty-fourth course of medical lectures under the direction of Leland Stanford Junior Medical School, at Lane Hall, San Francisco, was opened January 14 by Dr George H Whipple, San Francisco, a director of the Hooper Foundation for Medical Research, who spoke on "Medical Research and Its Relation to General Medicine"

Personal—Drs Cornelius Van Zwaluwenburg and William W Roblee, both of Riverside, have taken new and larger quarters in the Glenwood Block and they will have associated with them a pathologist and laboratory man——Dr William S Porter, Oakland, returned from Australia, January 18 He had been detained in that country for several weeks until he could establish his American citizenship

Doctor Graham Not Dead—In the issue of The Journal of October 2, among the obituary notices appeared that of Dr Lorne Benjamin Graham of Pacific Grove, who it was reported had been killed in the Aegean Sea, August 17, when a transport on which he was going to the Dardanelles was sunk by a German submarine Further inquiry has elicited the information from the chief surgeon of the expeditionary forces in the Dardanelles that Dr Graham is in good health, and is now serving as temporary lieutenant in the Royal Army Medical Corps and is attached to the Thirty-Third Field Ambulance, M E F., at present stationed at Mudros

Contemplated Improvements at the University of California Medical School—The University of California Medical School is said to be receiving rapid development at the hands of the university The expenditure of the university for medical instruction last year is reported at $87,345, and $74,876 was spent for the maintenance of the teaching hospital, making a total spent by the university for medical work of $162,221 It is expected that a new 216-bed teaching hospital will be completed by next summer, at a cost, met by private gift, of $615,000 The regents of the University of California have announced a program of expansion in the immediate future This plan calls for a new building to house the departments of anatomy and pathology, to cost $150,000, an out-patient building, to cost $100,000, a nurses' home with accommodations for 100 nurses, to cost $100,000, alterations for the present hospital building, soon to be vacated, to fit it for use for physiology and physiologic chemistry, at a cost of $30,000, alterations of the western building to provide for administrative offices, medical library, etc, and the erection of a central heating and power plant

Public Lectures—The University of California has announced a series of Saturday morning lectures, open to the general public, on the problems of tropical medicine, a field of work to which particular attention is being paid by members of the staff of the Hooper Foundation for Medical Research of the University of California The coming lectures at the University of California Hospital in San Francisco will be as follows

February 5—Dr K F Meyer, Associate Professor of Tropical Medicine of the Hooper Foundation for Medical Research, "Trypanosomiases," with demonstration of living organisms

February 12—Professor Walker, "Malaria in California," with a demonstration of material

February 19—Dr H C Moffit, Professor of Medicine and Dean of the University of California Medical School, "Clinical Aspects of Malaria in California"

February 26—Dr K F Meyer, "Piroplasmiases," with demonstrations

March 4—Dr H F Nichols, "Spirochaetiases"

March 11—Dr Frank Billings, "The More Important Helminthiases"

March 18—Dr K F Meyer, "Yellow Fever, Dengue, and Pappataci"

March 25—Dr K F Meyer, "Typhus, Spotted Fever and Verruga Peruviana"

April 1—Dr Howard Morrow, Clinical Professor of Dermatology, "Leprosy and Tropical Skin Diseases"

April 8—Dr Frank Billings, "Beriberi and Pellagra," with demonstrations

April 15—Dr E L Walker, "Parasitic Insects and the Role of Insects in the Transmission of Tropical Diseases"

April 22—Dr K F Meyer, "Tropical Hygiene and Sanitation—Summary of the Present Day Achievements"

COLORADO

Clinical Society Organized—The Pueblo County Clinical and Pathological Society was organized recently in Pueblo, and the following officers were elected president, Dr Crum Epler, vice president, Dr Elmer A Elder, and secretary-treasurer, Dr David E Hoag

Medical Reserve Corps Division Organized—The Association of the Medical Reserve Corps, U S Army, Colorado State Division, was recently organized in Denver, and the following officers were elected president, Lieut Charles A Powers, vice president, Lieut Thomas E Carmody, secretary, Lieut William C K Berlin, and treasurer, Lieut Cuthbert Powell, all of Denver

Personal—Dr William H Bergtold has been elected president, Dr Charles B Lyman, vice president, and Dr Robert L Charles, secretary, of the staff of St Joseph's Hospital, Denver——Dr William A Jolley, Boulder, has returned after war service in Serbia——Dr Walter S Merritt, superintendent of the Beth-El Hospital, Colorado Springs, has declined the invitation of the Iowa Methodist Hospital, Des Moines, to become its head

New Quarters for Medical Society—Arrangements have been made by which the medical society will soon have new and commodious quarters for its meeting hall and library A new building is to be erected adjoining the Metropolitan Building, which is now used exclusively by doctors and dentists, and connected with it by an archway The whole of the ground floor of the new building will be occupied by the society for its library, office and meeting hall with a seating capacity of 250 The space devoted to the library will be ample not only for all present needs, but for the natural expansion of the future

---

[1] Myers, V C, and Lough, W G The Creatinin of the Blood in Nephritis Its Diagnostic Value, Arch Int Med, October, 1915, p 536

CONNECTICUT

Personal.—Dr Joseph E Harris, New Haven has been appointed assistant physician of the Ohio State Sanatorium, Mount Vernon——Dr John T Black, health officer of New London, has been elected secretary of the State Board of Health to succeed Dr Joseph H Townsend, New Haven, deceased

New Officers for New Haven Society—At the annual meeting of the New Haven Medical Association, January 19, the following officers were elected president, Dr Frederick Bellosa, vice presidents Drs John F Luby and Eugene M Blake, secretary, Dr Charles E Sanford, and treasurer, Dr Thomas V Hynes

ILLINOIS

Protest Against Removal of Water Commissioner—Physicians of Rock Island at a called meeting appointed a committee to draft resolutions protesting against the proposed removal of R. W Sharp as superintendent of the city water works and commending the efficient management of the water department

County Society Entertained at Army Post.—The regular monthly meeting of the Lake County Medical Society was held at Fort Sheridan January 13 The guests were shown through the post, including the post hospital and dinner was served, after which there were clinical demonstrations and case reports by medical officers of the post, a talk on preparedness by the commanding officer and one by Major Tompkins on "Life Among the Indians"

Personal.—Dr Gilbert Langdon Bailey, Oak Park, has purchased the estate known as the Higgenbotham farm about two miles from Lexington, Ky , on the Newtown pike Dr Bailey expects to take possession of his farm March 1——It is stated that Dr Emmett A Garrett will be appointed commissioner of public health of the city of Peoria to succeed the late Dr Edward Hasson——Dr William Jayne Springfield, fell on a slippery sidewalk, January 19, injuring his left hip——Dr George L Apfelbach, director of the Occupational Disease Clinic of the Illinois Department of Factory Inspection, delivered an illustrated lecture on "Occupational Hygiene," in the auditorium of the Chicago Turngemeinde, January 19——Dr George P Gill, Rockford who served for six months with the Chicago unit in British war hospitals, expects to return in February after making a tour of Switzerland and Italy——Dr Beattrice C. Opre, Victoria, while visiting patients January 8 was seriously injured by her horse slipping and falling on her

Chicago

Local Nurses Sail for War Service—Thirty-five more nurses from the Mercy Hospital sailed from New York February 2 for England to minister to the wounded soldiers of the Allies Miss Mabel Adamson is in charge of the party

Personal—Dr Henrietta M Farquharson was knocked down by a wagon January 26 and sustained serious contusions and lacerations——Dr Charles F Yerger, attending physician at the Juvenile Detention Home suffered concussion of the brain from an accidental blow on the head January 25

Freudenthal to Speak in Chicago—Dr Wolff Freudenthal president of the German Medical Society, New York City, will address the German Medical Society, Chicago by invitation on February 17 on "The Direct Galvanization and Faradization of the Bronchi and Their Topical Medicinal Treatment in Bronchial Asthma."

Institute of Medicine Meeting—At the meeting of the Institute of Medicine of Chicago January 28, "The Glands of Internal Secretions' was the subject for discussion The speakers were Prof Robert R Bensley of the University of Chicago, Prof R G Hoskins of the Northwestern University Medical School, and Dr Joseph L. Miller Dr Dean D Lewis led the discussion

Cosmetic Surgery—A Chicago branch of the American National Committee for the foundation of special American hospitals in Paris for wounds of the face and jaw has been appointed About $100 000 will be required for this purpose of which $30 000 has so far been secured and the American Red Cross agrees to donate $2 000 for every $18 000 raised by subscription The committee consists of Drs Truman W Brophy chairman and L. L. Davis and George West.

Girl Falls Two Hundred Feet and Lives—A young woman fell last week from the sixteenth floor of the Transportation Building, more than 200 feet, head first, alighting, fortunately for her, in an automobile truck filled with paper boxes She sustained a compound comminuted fracture of the right humerus near the surgical neck and a deep scalp wound of the forehead At present she is a patient in St Luke's Hospital, and is practically out of danger from a surgical standpoint

Tuberculosis Institute Meeting—The tenth annual meeting of the Chicago Tuberculosis Institute was held at the City Club January 28 The three vacancies on the board were filled by Mrs C B Moore, Mrs Arthur Aldis and Rev Francis Kelley Dr Theodore B Sachs, the president, reported that while in 1906 there were only 300 tuberculosis beds in the city and county and only 180 tuberculosis institutes in the United States, today there are 1,980 beds for tuberculosis patients in Chicago and 600 sanatoriums and hospitals in the United States with a total capacity of about 35,000 beds

Scarlet Fever—The sum of $7,500 was set apart by the city council finance committee January 21 to provide hospital accommodations for patients suffering from scarlet fever and unable to pay for treatment Owing to the crowded condition of the county hospital, the patients cannot be received The city's contagious disease hospital is not yet completed and the grant of funds was an emergency measure According to the figures of the health department the number of scarlet fever cases in the last five months were as follows December, 579, November, 589, October, 209, September, 98, and August, 90

The Educational Propaganda—At the annual meeting of the clinic for infant feeding held January 29 in Grace Parish Church, Dr Frank S Churchill, who is at the head of infant welfare work in Chicago, delivered an address——At the annual meeting of the Women's City Club Dr A L. Lindsay Wynekoop of the Child Welfare Committee, and Dr Rachelle S Yarros of the Social Hygiene Committee made reports and discussed the city budget——Secretary E R Pritchard of the Chicago Board of Health spoke at a meeting of the John Fiske Parents'-Teachers' Association January 21 on "Community Work for Community Good"

INDIANA

Approves Sanatorium.—The Marion County Council agreed to allow $80,000 for a county tuberculosis sanatorium This is $20,000 less than was requested

New Officers of State Board.—The State Board of Medical Registration and Examination at its meeting, January 11, elected the following officers president, Dr James M Dinnen, Fort Wayne, vice presidents, Drs William A. Spurgeon, Muncie, and William T Gott, Crawfordsville, secretary-treasurer, Dr Moses S Canfield, Frankfort

Dinner to Physicians—Physicians of Lafayette and some of the members of the faculty of Purdue University, Lafayette, were the guests of the Sisters of St Francis, January 13 at the twenty-fifth annual banquet given at St Elizabeth's Hospital Dr George F Beasley officiated as toastmaster and at the conclusion of the dinner short talks were made by several of the guests

The Recent Intestinal Epidemic—An investigation of the recent illness in Indianapolis in which gastro-intestinal symptoms were the most prominent, has shown that gas-forming bacteria were discovered in forty-one out of sixty-two samples of city water The water company has now put in check valves so that an epidemic of this kind may not be possible again

Personal—Dr Carleton B McCulloch, Indianapolis has been appointed a delegate from Indianapolis to the National Security League——Dr Percy E McCown, Indianapolis, is spending several months in the East in postgraduate work——Dr Earle S Green, Muncie, has been commissioned Major Medical Corps, Ind N G——Dr James H Moroney Winchester has returned after several months in Louisiana——Dr Milton A Tremain Adams fractured his right arm by the backfiring of his automobile, January 24——Dr Henry B Shacklett, New Albany has been appointed president of the Floyd County Antituberculosis League.——Dr Frederick M Aitken Bristol is ill with influenza in the General Hospital, Elkhart——Dr Jesse L McElroy has been appointed physician to the Indianapolis City Dispensary succeeding Dr Frederick E. Jackson Indianapolis resigned

Judgment in Favor of Physician Affirmed—The supreme court has affirmed the Marion Superior Court in giving Dr John R Newcomb, Indianapolis, a judgment for $371 against the Indiana Die Casting Development Company for services rendered one of its injured workmen The company defended the action on the ground that Dr Newcomb was employed by the superintendent of the company who had not been empowered to employ a physician for the care of injured workmen The supreme court quotes with approval the following "The rule that the board of directors must act as a body or a unit is not ironclad It has already been seen that a by-law may be created by custom or usage For the simple reason the board of directors may, by acting separately in an individual capacity, establish a custom or usage that will be binding on them and on the corporation So the separate assent of a majority of the directors to the employment of a physician to attend an injured employe of the corporation, where a majority of them, including the officers, actively participate in the employment and counseled with him concerning the care and treatment of the patient, was held sufficient to make such employment binding on the corporation" The court says that the actions of the superintendent and directors were such that Dr Newcomb is entitled to recover for his services

MICHIGAN

Convictions—It is reported that Dr S Clay Todd, Grand Rapids, was convicted in the Superior Court January 12, of illegal advertising of his medical business——It is reported that J Alton Watson, a neuropath of Grand Rapids, was convicted recently of practicing medicine without a license

Army Surgeon at Ann Arbor—Col Louis A LaGarde, M C, U S Army, will deliver the annual Founders' Day address of the Medical School of the University of Michigan, Ann Arbor, February 22 The topic will be "The Dum Dum Myth" Colonel LaGarde will reach Ann Arbor February 18 and will deliver two lectures a day on military surgery to the medical students, closing the series on Founders' Day

Personal—Dr Frederick C Warnshuis, Grand Rapids, on January 15 was appointed chief surgeon of the Pere Marquette Railroad Company with office at Grand Rapids ——Dr Julius H Eddy, Wakefield, has retired after twenty-eight years' practice in that place He has disposed of his property including his hospital to Drs Henry A Tressel and Robert J C Prout and will leave in February for California——Dr Alvin H Rockwell, for seven years health officer of Kalamazoo, has resigned

MISSISSIPPI

State Health Officers Meet—The third annual meeting of the Mississippi Public Health Association was held in Jackson, January 25 and 26, under the presidency of Dr Waller S Leathers, University and Oxford, state health officer

Tuberculosis Sanatorium Legislation—A bill has been introduced in the state legislature which provides for the establishment of a tuberculosis sanatorium The bill also provides that sanatoriums may be established by counties in various parts of the state

Endorse Health Measures—The Hinds-Rankin Medical Society at a meeting at Jackson, January 12, endorsed a number of measures to be passed on by the legislature Among these were bills for the establishment of an institution for the feebleminded, to require midwives and physicians to employ measures prophylactic of blindness, to appropriate $30,000 for the campaign against pellagra The society also instructed its secretary to inform Secretary of the Treasury McAdoo of the society's approval of the proposal to spend $100,000 to carry on the fight against pellagra in the South

State Board of Health Appointments—The governor on January 21 announced the appointment of the following members of the State Board of Health first district, Dr Luther L McNeill, Olive Branch, second district, Dr J Harvey McDougal, Booneville, third district, Dr W W Hall, Jr, Ruleville, fourth district, Dr Charles D Mitchell, Pontotoc, sixth district, Dr Harvey F Garrison, Seminary, seventh district, Dr B Lampton Crawford, Tylertown, eighth district, Dr Jacob D Gilleylen, Jackson These appointees, together with the five appointees of the Mississippi State Medical Association named at the annual meeting last May, Drs John H Johnson, Brookhaven, Thomas H Seay, Laurel, S Wade Glass, Lyon, Samuel E Eason, New Albany, and Thomas F Elkin, Tupelo, met at the state capitol, Jackson, January 25, for organization and to elect officers

MISSOURI

Higher Entrance Standard—An official communication received from the St Louis University School of Medicine, states that two years of college work will be required for admission to that institution on and after Nov 1, 1917

Personal—Dr Albert L Gray, staff obstetrician for the Social Welfare Board of St Joseph for two years, has resigned——Dr William T Fitzsimons, Kansas City, has returned after war service in Europe——Dr Clarence J Laws has leased the Princeton Sanatorium from Dr B S Powell——Dr John A Malley, Monroe City, has been appointed surgeon of the Wabash System with territory extending from Moberly to Hannibal——Dr Murray C Stone has been appointed pathologist and bacteriologist of the Springfield Hospital

Prevention of Malaria—The Department of Preventive Medicine of the University of Missouri has prepared for distribution *Medical Bulletin 28* on the "Prevention of Malaria" The pamphlet gives the history of malaria, theories concerning its causation, and a record of the discovery of the parasite and the relation of the mosquito to the spread of the disease, with a description of the disease-carrying insect and an outline of methods of prevention and treatment It is said that 1,500,000 people in the United States suffer from malaria every year, and that it causes annually 12,000 deaths If each life were valued at $5,000 the loss from this cause would be $60,000,000, to say nothing of the enormous value of time lost by and money expended for the treatment of those who do not die As it is a preventable disease, its continued prevalence is a reproach to the people, and its eradication would be a good money investment In this connection the university announces that a bureau of information has been established in connection with the Department of Preventive Medicine, with a laboratory, to make free the necessary examinations in the prevention of malaria and other diseases

St Louis

Department of Hygiene—At the last meeting of the St Louis Medical Society a resolution was adopted commending the action of the board of education in maintaining a department of hygiene, and expressing its disapproval of any action that would deprive the public schools of the city of the valuable services of this department

Licenses Revoked—The *Weekly Bulletin* of the St Louis Medical Society for January 27 announces that the State Board of Health has revoked the license of Dr Harry L Fichtenkam on the charge of having agreed to perform an abortion, and the licenses of Drs William C (Baldy) Pierce and Gustav Wieland, for using the mails in a scheme to defraud, and that of Dr Paul N Fain, who had been convicted in the federal court of using the mails in a scheme to defraud and fined $200

NEBRASKA

Scarlet Fever in Omaha—At the meeting of the Douglas County Medical Society in Omaha, January 25, full publicity regarding the present epidemic of scarlet fever in the city and wide circulation of information were urged by the members

Personal—Dr Robert H Foster, assistant physician at the State Hospital, Norfolk, desires physicians of the state who have knowledge of cases of epilepsy in Nebraska to write to him——Dr William S Fast, superintendent of the Beatrice Institute for the Feebleminded, has been appointed superintendent of the Hastings State Hospital, succeeding Dr Mark W Baxter, Ingleside, resigned——*Dr George J* VanVechten, superintendent of health of Hastings, has recovered from an attack of influenza and resumed practice

NEW YORK

Lives Saved in the State—The figures made public by the State Department of Health show that outside of New York City there were 4,500 fewer deaths than in the same area in 1913 The total number of deaths in the state for the year was 145,552, and the proportionate rates for 1915, 1914 and 1913 were 14 9, 15.2 and 15 8 per thousand

Personal—To settle the question of the legality of the appointment of Dr Alva G Dunbar, Richland, as superintendent of the Oswego County Tuberculosis Hospital, a bill has been introduced in both houses of the legislature legalizing his appointment by the board of managers Under this bill Dr Dunbar's appointment is to have the same force and effect as though he had had three years of actual practice in his profession——Dr Cornelius F McCarthy, Batavia, who has been ill in Buffalo for four months, has recovered and will practice in Auburn——Heads of the various bureaus of the Buffalo Department of Health sent Health Commissioner Francis E. Fronczak a letter of congratulation on his reappointment as health commissioner

New York Association for Improving the Condition of the Poor—The seventy-second annual report of the above association which covers the year ending Sept 30, 1915 shows that the total sum expended in its activities was $789,830, an increase of $200,000 over the expenditures of any previous year The relief department alone cared for 12,000 families, 3 000 more than the figures for any other year These families comprised 54 000 persons, 33,170 days of country care were given to 1,990 convalescent persons, 42,228 days of fresh air outings at the beach were given to 17,860 mothers and children, 71,462 days of care and treatment were given to 330 persons of whom 248 were tuberculous, at the association's Home Hospital, 426 widows were given pensions by which they were enabled to care for their 1,363 children, and 413 deserted wives with 1,474 little children were given assistance. The Home Hospital experiment went through its third year During the course of the experiment 89 families have been admitted to the hospital comprising a total of 448 persons, of whom 196 were positive tuberculous cases, 121 were suspects and 131 nonpatients, 16 were dismissed for various causes, 19 wage-earner patients were discharged as needing no further treatment, the average residence of the discharged families was 383 days Isolation of the infected members of the families has been so well carried out in the experiment that during the three years no well member of a family has shown any evidence of having become infected No new methods of treatment were employed, the routine being the general hygienic-dietetic treatment employed in the leading sanatoriums and hospitals

New York City

Harvey Society Lecture—The sixth lecture of the Harvey Society series delivered at the New York Academy of Medicine, February 5, was by Dr Hideyo Noguchi of the Rockefeller Institute for Medical Research on "Spirochetes"

Epidemic of Influenza on the Wane—For the week ended January 22, 501 deaths were reported as caused by influenza, bronchitis and pneumonia 209 more than were reported for the corresponding week of last year, but 58 less than for the preceding week of this year This seems to indicate that the epidemic of grip and pneumonia are definitely on the wane

Fire Prevention.—At the request of the fire commissioner, the board of aldermen have enacted a city ordinance providing that no person shall throw away any lighted match, cigar or cigarette within any building or structure or in any boat car or other vehicle for the common carriage of passengers unless it be to deposit the same in suitable container of metal or other noncombustible material provided for the reception thereof It is stated that aside from the large financial loss due to fire during the past year, 85 persons have lost their lives as the result of conflagrations in this city

Antivaccination Law—The Kings County Medical Society in adopting the yearly reports of its committees for the year 1915 recently put itself on record as characterizing the antivaccination law enacted by the last legislature as "one of the most ignorantly mistaken acts ever legalized, a lamentable satire on preventive medicine" It is said an epidemic of smallpox at New Rochelle proved this to be the case. This law was approved by the state health commissioner as a compromise measure, and provides that communities may determine vaccination in cities of certain classes only in the presence of an epidemic. The law previously provided for compulsory vaccination throughout the state

Personal.—Dr Phoebus A. Levene, director of the chemical laboratory of the Rockefeller Institute for Medical Research, has been elected an ordinary member of the Royal Upsala Scientific Society in recognition of his scientific activities——Dr Otto Schoebl has tendered his resignation as assistant director of the quarantine laboratory port of New York, health officers' department, to accept a position in the Bureau of Science, *Manila, P I——Dr Albert C. Perveil* Brooklyn, is reported to be critically ill with sleeping sickness contracted in Central Africa——Dr John A. Ferguson, Brooklyn, is said to be seriously ill with pneumonia——Dr Allen G Terrell, Riverhead, has succeeded Dr Foster Thayer as medical director of the Mutual Benefit Association

Activities of Public Health Committee—The Public Health Committee of the New York Academy of Medicine has recently presented a report of its various activities during the year 1915 A summary of this report shows that they have interested themselves in investigating many matters relating to public health and better living conditions and that their influence is felt in practically every matter which has a bearing on public health Among the subjects which they have considered on which they have expressed an opinion are the following Teacher mothers in public schools, children's pavilion at the Metropolitan Hospital, eye defects in public schoolchildren, vaccination, certified milk, necropsies, convalescent care of children suffering from heart disease, the problem of drug addiction, homes for the aged, control of quarantine station, health legislation, street cleaning, American Museum of Safety, municipal civil service, sewage disposal into Lake Mohansic, state policy for dealing with mental deficiency, the city budget, and health insurance

Free Lectures—The Public Health Education Committee of the Medical Society of the County of New York, in cooperation with the New York Academy of Medicine, will give a course of free public lectures on the prevention of disease, on alternate Tuesday evenings and Thursday afternoons, February 1 to March 23 The program is as follows

Nerves in Order Versus Nerves in Disorder Tuesday February 1 8 15 p m Nerves Out of Tune Thaddeus Hoyt Ames, M D Self Control Mary Sutton Macy, M D Nerves of the Surgeon, Family, Nurse and Doctor William S Bainbridge, M D

Childhood Conditions Thursday, February 10, 3 30 p m Constipation Abraham Jacobi, M.D Milk for the Baby at Home, Godfrey R Pisek M D

Exposé of the Patent Medicine Game, Tuesday, February 15, 8 15 p m Humbuggery of Patent Medicines, Oscar M Leiser, M D The Quack and His Methods, John Van Doren Young M D

Rapid Advancement of Health Measures in the Industries, Thursday February 24 3 30 p m Medical Supervision of the Dangerous Trades Louis I Harris, M D Industrial Hygiene and Occupational Diseases Lillian Erskine Industrial Diseases in New York—Their Study and Prevention W Gilman Thompson M D

The Most Important Inherited and Acquired Evil Tuesday, February 29 8 15 p m Inherited Daisy M O Robinson M D Acquired, John A. Fordyce, M D Insanity as a Result, Pearce Bailey M D

What the Medical Laboratory Work Does for the People Thursday March 9 3 30 p m In Investigation, Louise Pearce M D In Diagnosis Matthias Nicoll Jr M D In Treatment William H Park M D

Better Eyes and the Prevention of Blindness Tuesday March 14 8 15 p m Prevention of Eye Diseases in the New Born Baby Henry P De Forest M D Care of the Eyes in Everyday Life Walter B Weidler M D Protection of the Public by U S Quarantine, Mary Wakefield M D

Woman s Health in Relation to Her Own Field, Thursday March 23 3 30 p m. Prenatal Care of Mother, Mary Lee Edward M D Constipation, Rosalie S Morton M D Cancer in Some of Its Aspects Howard Canning Taylor, M D

OHIO

Dean Means Resigns.—Dr William J Means, one of the organizers of the Ohio State University and dean of the Starling-Ohio Medical University ever since the merger in 1907, has resigned to take effect June 30, on account of impaired health and age

Civil Service Examiners—The State Civil Service Commission announced on January 15 the appointment of Drs William J Means, Herbert M Platter and Edward C Buck, all of Columbus to prepare the questions and have charge of the examinations of candidates for the position of chief medical examiner with the State Industrial Commission

Personal—Dr Walter H Rieger, Cleveland, has spent six months at Harvard University in graduate work——Dr Arthur Pancake Springfield, was thrown from his automobile in a collision with freight cars at a grade crossing——Dr Harry H Snively, Columbus, has returned after a year in the Red Cross service in Russia and Persia——Dr Sylvester R. Best, Centerburg vital statistician in the State Bureau of Vital Statistics was operated on at Grant Hospital Columbus, January 9 for the removal of gallstones——Dr George Stockton Columbus, who fractured his leg several weeks ago is convalescent and has resumed practice

Harrison Law Constitutional.—In upholding the constitutionality of the Harrison Narcotic Law in the United States District Court for the Northern District of Ohio Judge Killits said 'The indiscriminate and unrestrained use of opium coca and their derivatives is well known to be a great evil gravely affecting the general welfare of the country These are exclusively foreign products, and it is entirely within the power of Congress, in the interest of the general welfare, to exclude their importation entirely, or so to regulate the traffic in them in this country that their importation may be traced"

Medical Societies Merge—The differences which have existed among physicians of Muskingum County for some time and which resulted in the forming of two societies, the Muskingum County Medical Society and the Academy of Medicine, were finally ended at a meeting in Zanesville, January 26, by the members of the county society accepting the invitation of the Academy of Medicine to affiliate with that body The transfer was sanctioned by the council of the Ohio State Medical Association, the names of the members were certified to the Academy for membership and the funds were turned over to the Academy treasury The officers of the merged societies are as follows president, Dr Edgar M Brown, vice president, Dr Leroy F Long, and secretary, Dr Edmund R Brush

Cincinnati

Chair of Medicine Inaugurated—The exercises attending the inauguration of the Frederick Forchheimer chair of medicine and the installation of Dr Roger Sylvester Morris into that chair were held at McMicken Hall, University of Cincinnati, January 28

Public Health Officials Speak—P A Surg W H Frost, U S P H S, gave an illustrated lecture, January 12, at the University of Cincinnati before the Cincinnati section of the American Chemical Society, on "Pollution of the Ohio River"——Surg Dana Elihu Robinson, U S P H S, as the result of investigations occupying more than eighteen months, discussed "Economic and Racial Factors Affecting the Health of Cincinnati," before the City Club, January 8

Personal—Dr Albert H Freiberg has been delegated to represent the Cincinnati Academy of Medicine at the medical defense committee of the Ohio State Medical Association ——Drs John W Murphy and Martin H Urner have leased the entire twenty-seventh floor of the Union Central Building and will occupy this space as offices and as a hospital for eye, ear, nose and throat patients——Dr Arthur C Bachmeyer, superintendent of the Cincinnati General Hospital, has been elected chairman of the Association of Hospital Chiefs of Cincinnati——Dr Christian R Holmes is said to be slated for the position of supervising director of the Cincinnati General Hospital

OKLAHOMA

District Association Meeting—The Central Oklahoma Medical Association met in Enid, January 11, and elected the following officers president, Dr Lee W Cotton, Enid, vice presidents, Drs Lauren H Buxton, Oklahoma City, and Harry F Vandiver, Lahoma, secretary-treasurer, Dr Leigh F Watson, Oklahoma City The next meeting will be held in Oklahoma City, April 11

PENNSYLVANIA

Abington Plans Elkins Memorial—The residents of Abington Township have been asked to contribute a dollar each to purchase a memorial to George W Elkins to be placed in the corridor of the Abington Memorial Hospital which was constructed and endowed by Mr Elkins

Personal—Dr George H Widder has been reelected president of the Harrisburg Board of Health, and Dr George F Moffit, city bacteriologist of Harrisburg——Dr Edward S Dickey, Pittsburgh, intends going to Russia to do Red Cross work——Dr Mary A Naylor, Pittsburgh, has been appointed by the board of public education of that city as medical examiner of teachers applying for retirement.

To Enforce College Quarantine—State Health Commissioner Dixon has notified the local health authorities in the homes of students who hurried away when scarlet fever broke out in Washington and Jefferson College, to keep such students under observation for ten days before allowing them to leave their homes Some of them lived in other states This plan will be followed for those residing in Pennsylvania Deputies have been detailed to go to Washington to help enforce the quarantine All classes were abandoned on January 20, and none will be held until February 7

Industrial Hygiene Conferences—The Division of Industrial Hygiene and Engineering of the Pennsylvania Department of Labor and Industry is contemplating a series of conferences for the promotion of industrial hygiene in the industries of Pennsylvania The first conference, at which the subject of lead poisoning will be discussed, will be held at the state capitol, Harrisburg, February 17 Any physicians desiring more detailed information as to the scope of these conferences can obtain the same by addressing Dr Francis D Patterson, Department of Labor and Industry, Harrisburg

Philadelphia

Personal—Dr Leon F Luburg, district surgeon of a police station, was on January 15 placed in command of all his district surgeons at fires where two or more box alarms are sent out and in case of the absence of Dr Hubley R Owen, chief of the bureau——Following a protest made by the Civil Service Reform Association, Drs William K Muller, medical examiner of the Civil Service Commission, and Dr J Clinton Foltz, assistant medical examiner, are still retained in the service of the city——Dr J William White, who has been ill at the University Hospital, has returned to his home much improved——Dr Ross V Patterson has been appointed visiting physician at the Philadelphia General Hospital, succeeding the late Dr Robert N Willson——Dr Carleton N Russell has returned after service with the American Hospital Corps in France

Baby Week—"Baby Week" will be held from March 4 to 11, and it is planned to designate March 5 as Baby Sunday, and pastors of all churches will be asked to make the baby the subject of all sermons Dr William Krusen, director of public health and charities, states that the purpose of Baby Week is to bring before all the citizens of the city the importance of the baby in the community life, by educational means to emphasize the necessity for continued care of the city's babies and to impress on the citizens of the community that a large proportion of the deaths of babies is preventable The following executives were appointed Dr Joseph S Neff, director of the Department of Public Health and Charities, A Cross, managing director of the Department of Public Health and Charities, Dr John D McLean, president of the County Medical Society, Dr C Lincoln Furbush, Dr Howard C Carpenter, chairman of the executive committee of the Baby Saving Society, Dr John F St Clair, Dr Henry H Doan, chief of the Division of Child Hygiene, and John A Vogelson, chief of the Bureau of Health

UTAH

Personal—Dr Ezekiel R Dumke, Ogden, has returned after several months' postgraduate study in the East——Dr George E Hyde has been appointed assistant county physician of Salt Lake County, succeeding Dr Charles N Ray, promoted to be county physician, vice Dr Crayton C Snyder, resigned

Rabies—A systematic effort to eradicate rabies from the state was begun January 16 when S E Piper, assistant biologist of the United States Biological Survey, met Dr Theodore B Beatty, state health commissioner, to devise a plan of procedure One of the chief features of the plan will be the extermination of predatory animals such as the coyote, and already the survey has fifteen hunters in the state, with headquarters at Provo It is proposed to add to this force twenty-five hunters from the deputies of the state fish and game department Authorization of special funds for this purpose will be asked

VIRGINIA

Leper Isolated—George Hodges, the leper from Hopewell, discovered in Richmond, where he had gone for treatment, was reported January 7 to have been isolated on the city farm, where he may become a permanent charge of the city It is said that Hodges, who is a Greek, cannot be deported because he has been in this country seven years

Increased Appropriation Asked for Health Department—Dr Ernest C Levy, chief health officer of Richmond, asks an appropriation of $75,050 for the ensuing year The increase in appropriation is necessitated by the increase in the area and population of Richmond, and the special needs are the establishment of a system of medical inspection of schools and for preventive measures

Sanatorium Given to Richmond—Pine Camp, the open air sanatorium for the treatment of tuberculosis, has been transferred to the municipality of Richmond by the Pine Camp Association which has operated it since its establishment The annual cost of maintenance of the institution has been $13,000, of which the city council contributed $10,000 Therefore, the additional cost to the city will be only $3,000 a year

CANADA

Medical Commission Sittings—The Hon Mr Justice Hodgins will resume sittings of the Ontario Medical Com mission in Toronto on January 31, to hear the views of those interested in the proposed changes of the Ontario Medical Act relating to the disciplinary powers of the Ontario Medical Council On Tuesday the Christian Scientists will be heard, and also graduate and other practicing nurses respecting requirements for registration

Medical Students Recalled—The pressing need for doctors in the British forces is seen in the action of the British War Office in weeding out from the ranks, from ambulances and in other capacities at the front, twenty to thirty fourth-year medical students of the University of Toronto These are being sent back to Toronto to complete their course in medicine They will be given a summer term during the next summer so that they may qualify for their degrees about Christmas, 1916

Ontario War Hospital Staff Appointed—Announcement has been made by the Ontario Government of the medical and nursing staff of the Ontario Hospital, about to be opened at Orpington, Kent, England The director of the hospital has not yet been appointed but it is understand he will be chosen from among Canadian military men already in England and who have been on active service Dr Edward Ryan, Kingston, Ont, superintendent of the Rockwood Hospital for the Insane in that city, has been selected as chief of the psychopathic wards which will handle cases of shock and nervous effects of shock The nurses have all been selected from the Ontario hospitals for the insane Twenty-eight physicians from Ontario have been appointed on the staff

Personal.—Dr J Standish, a retired physician, 75 years of age, of Palmerston, Ont, has offered his services to attend soldiers mobilizing in that section of Ontario——Major Ethelbert B Hardy, M B, Toronto, now on active service in France, has been raised to the rank of lieutenant-colonel and has command of No 2 Field Ambulance He succeeds Lieut-Col David W McPherson, now in command of the convalescent hospital in Surry, England——Lieut-Col Henry R. Casgrain, M D, Windsor, Ont, who was invalided to England from the Mediterranean, has been placed in command of the King's Canadian Canvalescent Hospital at Bushey Park, England——Dr G F Dewar, Charlottetown, P E I., is acting medical superintendent of Falconwood Hospital for the Insane, during the absence of Dr Goodwill, on active service——Dr Charles J Edgar, North Hatley, Que, arrived in New York, January 22, from England after service for several months on British hospital ships in the Mediterranean

GENERAL

Missouri Valley Meeting—The twenty-eighth semiannual meeting of the Medical Society of the Missouri Valley will be held in St. Joseph March 23 and 24 with headquarters at the Robidoux Hotel.

General Blue's Reappointment Confirmed—On January 10 President Wilson sent to the Senate the name of Dr Rupert Blue as a renomination for a second term as Surgeon General, United States Public Health Service, and three days later the appointment was confirmed by the Senate

Medical Jurists to Meet.—The American Association of Medical Jurisprudence will meet in Washington, D C., May 5 at the New Willard Hotel, under the presidency of Dr D Percy Hickling Washington, D C. Dr William A. Woodward has been appointed chairman of the committee of arrangements

American Life Convention Meeting—The American section of the American Life Convention will hold its annual meeting at the Hotel Tutewiler Birmingham, Ala., March 1-3, with Dr Whitfield Harral, Dallas Texas, chairman, Dr Frank W Foxworthy, Indianapolis, chairman of the program committee, and Dr Frank L B Jenney, Chicago, secretary

Bequests and Donations—The following bequests and donations have recently been announced

Cambridge (Mass) Hospital the residue of the estate of Everett W Raddin Danvers provided the institution will hang a portrait of his late wife in some public part of the building

St. Rose s Cancer House New York N Y Home for Aged Cripples Boston and St. Luke s Hospital New Bedford Mass each $5 000 by the will of Mrs. Clara E Seabury

Hahnemann Medical College Philadelphia $35 000 Home for Incurables $15 000 Protestant Episcopal Hospital $10,000 by the will of Jacob E. Neaife These bequests became operative January 15 by the death of a daughter of Mr Neaife

Endowment fund of Protestant Episcopal Hospital Philadelphia $25 000 Philadelphia Home for Incurables $5 000 by the will of James Hay

Medico Chirurgical College of Philadelphia for the endowment of a Dr Isaac Ott chair in physiology by the will of the mother of Dr Ott An appraisement of the estate in 1905 gave this a value of $73 717

The University of Pennsylvania the estate of Dr Isaac Ott, Easton on the death of his widow The chair is for original research work and the occupant is not to teach while holding it He may study here or abroad, and if he fails to discover anything new on the subject in any one year the trustees may elect a successor if they deem it advisable.

St Luke s Hospital, New York City, $566 621, as a remaining interest after the death of the testator s mother and the Oswego (N Y) City Hospital $10,000 by the will of George B Sloan

Vermont Medicine, A New Journal—The first issue of *Vermont Medicine*, the official organ of the Vermont State Medical Society, has made its appearance It consists of twenty-eight pages of reading matter, eight pages of advertising, with additional advertising space on its neat cover Its salutatory editorial declares "The advertising pages of *Vermont Medicine* will be kept free from the taint of commercialism and rigidly free from the custom which we regret to see is still followed by a few of our contemporaries of advancing the sale of those perilous nostrums which are not properly even commercialism, but robbery The single purpose of this journal is to promote the cause of scientific medicine in the state of Vermont through influence on the practitioners of medicine" The secretary's page further announces "No advertisements will be accepted for pharmaceuticals that are not U S P or N F preparations, unless they have been approved by the Council on Pharmacy and Chemistry of the American Medical Association" This new state journal is conducted by the publication committee of the Vermont State Medical Association, which committee consists of Drs James M Hamilton, Rutland, and Charles F Dalton, Burlington, respectively secretary and treasurer of the state organization, together with A Stuart M Chisholm, Bennington, editor

FOREIGN

Deaths from Methyl Alcohol Poisoning—The *Medizinische Klinik* republishes a news item to the effect that in twelve places in a certain province in Hungary there have been sixty-three fatalities and twelve severe but not fatal cases of poisoning from drinking methyl alcohol

British Medical Directory—The British Medical Directory for 1916, according to the *Lancet*, shows in some degree the effects of the war on the profession The number of practitioners eligible for registration is said to be two less than for the previous year, the total registration being given as 42 570 To 1915 the average yearly rate of increase for twenty-five years was said to be 526, and for the five years preceding 1915 it was 420 The figures therefore show a potential deficit of more than 400 The directory gives 3,274 as the number connected with the services, but according to later figures there are 9,626 in the Royal Army Medical Corps alone

Research in Anthropology—The Academy of Sciences at Vienna has granted a further subsidy of $960 to Prof R. Poch to continue his anthropologic measurements and photographing of the various ethnologic types among the prisoners of war The *Klin-therap Wochenschrift* relates that he already has the measurements or pictures or moving-picture films, or all combined of 3,700 of the war captives, embracing all types of Russians and other Slavs As elsewhere there do not seem to be any pure types, they are all mixtures Language and fate blend the mixtures together into a group, a people There are five such groups in Poland and four main groups in the true Russians

WAR NOTES

Personal.—Dr Willard T Grenfell of Labrador, who is serving with the Twenty-Second British Expeditionary Hospital in France has been commissioned major——Dr Charles S Pancoast Philadelphia, who went to Vienna in December 1914 has been promoted and is now in charge of a 4 000-bed hospital at Munkacz in the Carpathians He has also been decorated with a gold medal by Emperor Francis Joseph

War Losses in the Profession in Germany—The *Medizinische Klinik* of December 26 quotes figures showing that the names of 1 084 physicians have appeared on the 400 casualty lists that had been published by that date in Germany The list includes 37 civilian physician 377 active medical officers 373 of the reserve force and 287 assistant medical officers Of this total 361 have been killed, 142 severely and 388 less severely wounded, 102 have been taken prisoners, and 90 are missing

Esperanto and the War—An Austrian exchange relates that Esperanto has been found quite useful during the war

A number of German soldiers taken prisoners by the Russian found that their knowledge of Esperanto was of the greatest help to them both in having their wounds cared for and in intercourse otherwise A green star is worn by those who know Esperanto, and this brought them comrades in many places In Siberia the Esperantists were able to secure many concessions for themselves and their fellow prisoners by their command of this universal language

Release of Bárány—The *Berliner klinische Wochenschrift* relates that Prince Karl of Sweden, who is the president of the committee appointed by the Red Cross to inspect the camps of prisoners of war, has *informed* the authorities at Vienna that Prof R Barany has been released from captivity in Russia It will be remembered that when the Nobel prize in medicine was bestowed on him in December, he had been taken prisoner by the Russians at the fall of Przemysl and was at that time in a prison camp at Merv, just east of the Caspian Sea He is expected to arrive soon in Vienna

Condition of Serbian Refugees Improved—Dr Edward W Ryan, who was in charge of the American Red Cross Hospital at Belgrade during the three bombardments of that city and who was recently authorized to cooperate with the American ambassador in Rome and the American Relief Clearing House in Paris in the relief of Serbian refugees in Albania, after a tour of Albania, has cabled the American Red Cross headquarters that the condition of refugees is improved, that one boat has already been chartered and that another will be chartered in a few days to carry refugees to Corsica

The Austrian University During the War — Professor Menzel of the law department is now rector of the University of Vienna It is stated that no less than 200 members of the medical faculty are in active service in the field and several have fallen The total registration is 400 less than the year before, but the women students number 300 more than ever before The classes are kept up as usual, but popular courses on domestic science and the care of the health have been organized, mainly for the benefit of teachers from other points Special courses on treatment of the wounded and other war subjects have been well attended The university has equipped and maintains a large hospital for the wounded, and its athletic grounds were loaned to the city for the raising of vegetables

Work of the Austrian Red Cross—A full report of the manifold activity of the Austrian Red Cross was published in the *Klin-therap Wochenschrift,* Nov 8, 1915, just received Two field hospitals, equipped for 300 wounded each, have been enlarged, one to a capacity of 2,000 The Red Cross has also three field stations for medical supplies and other articles, such as slippers, matches, pipes and paper There are still quite large supplies of drugs, etc, on hand, articles the supply of which has long since given out in civilian drug stores The Red Cross has further 890 hospitals, convalescent homes, etc, scattered over the country, representing a total of 95 000 beds The local transportation of the wounded to these various institutions has been systematically aided by the firemen's companies and athletic associations Medical supplies of value of over 6,000,000 crowns ($1,200,000) have been sent to the front, and nearly twice this has been spent in all Refreshments are served to passing troops and prisoners at all the railroad stations in Austria, and millions have thus enjoyed the hospitality of the Red Cross For the last few months the Red Cross has been using up the reserve funds accumulated in previous decades The Red Cross expedition recently sent to Bulgaria consisted of twenty-five hospital cars, and a two-car laboratory, with accommodations for 500 or 700 sick or wounded Major Potonkay is in charge of the train and Dr E Suchanek is the medical chief The personnel comprises six physicians and seventy-five nurses and orderlies

Protest Against Restriction of Exportation of German Medical Publications—THE JOURNAL mentioned recently (November 20, p 1830) that the military authorities in the marches or border states of Germany had issued orders that medical books and periodicals which might in any way help the enemy in conducting the war should not be sent out of the country An Austrian exchange, dated Dec 6, relates that the officers of the organization of German publishers and of the organized medical publishers have petitioned the authorities to countermand this order The petition emphasized the neutrality of medical science and expatiated on the fact that German medical literature at present stands at the head of medical literature the world around and that there is danger that it might lose this preeminent position if exportation is forbidden, especially to neutral lands Another argument advanced is that if the fruits of German medical science are to be cut off from the enemies' countries, then the sick and wounded German soldiers in captivity in these countries would suffer therefrom Besides all this, the financial existence would be threatened of a number of German publishers who depend exclusively on foreign customers The petition further asks for the definition and restriction of the prohibition to the exact special fields in which exportation of medical publications might actually wreak hardship on the Germans As the same mail brought us a three weeks' accumulation *of the five leading weeklies* in German, it is evident that the petition produced some effect There is, however, a gap of four or five numbers of each, preceding these issues The German custom of issuing certain periodicals irregularly, as material accumulates, has made it possible for journals of this "zwanglos" type to wait quietly until more favorable conditions are restored These are the ones usually to which we append the "Last *indexed, June 5, 1915, p 1948*" It has been one of the marvels of this war that the weekly mail from these distant countries has reached THE JOURNAL through all the disturbance as unfailingly as before the war Although often not in chronologic sequence, sooner or later the *missing* numbers have arrived until the stoppage by the censor of our German exchanges *in November* In 1912 one issue of a large number of our foreign exchanges was found missing from the files, the same date for all, and this was the week the *Titanic* was lost There has been no loss of mail comparable to this since the war began so far as our exchanges are concerned

BERLIN LETTER

BERLIN, Dec 14, 1915

Personal

Prof William Stern, director of the psychologic seminar in Breslau, has received a call from Hamburg

Professor Gross, publisher of the *Archiv fur Kriminal-Anthropologie und Kriminalistik,* died in Graz at the age of 67

The Prussian ministry of public instruction has ordered the erection of a bust of von Behring in the Marburg Institute for Hygiene in memory of the twenty-fifth anniversary of Behring's publication of his work on serum therapy

Hypnotism in War Hysteria

Professor Nonne recently delivered an interesting lecture before the Hamburg Medical Society on the value of hypnotism in the treatment of so-called war hysteria, a condition which, in his experience, is extremely common among the participants as well as among the injured Under this head Nonne places the motor and sensory nerve disturbances that are so frequently combined with vasomotor symptoms, with or without mental disturbance Cases of tic, stubborn tremor and severe and stubborn vasomotor disturbances Nonne regards as being *functional and not organic* or suborganic The truth of this belief is confirmed by the good results obtained from *hypnotic suggestion in* the treatment of these conditions The causation of this hysteria may therefore be mechanical or pathologic or idiopathic, although the etiologic factors are frequently combined Nonne does not believe it justifiable to place in a separate classification cases of cramp neuroses, akinesia, dyskinesia amnestica, vasomotor syndrome, and fear and fright neuroses, and he warns against the use of a terminology which apparently indicates an unfavorable prognosis (traumatic neuroses) The war has shown that the conception that hysteria is merely a form of degeneration, as well as the freudian theory, are based on wrong premises Nonne has based his statements on experiences gained in his capacity of consultant in the reserve hospitals of Schleswig-Holstein and various hospitals of Hamburg Among 1,800 cases of war injuries there were twenty-six cases of pure neuroses agreeing with the statistics of Biss, Horn and others as to the frequency of traumatic neuroses Nonne cites cases of hysterical paralyses which were diagnosed as (1) plexus paralysis, (2) cerebral paralysis, (3) spinal paralysis, (4) organic cerebral lesions, (5) ischemic paralysis, (6) arthritis deformans, and (7) inflammation of serous membranes These wrong diagnoses were in many cases accepted in the various hospitals of which the patients were inmates It is said that the reason for these wrong diagnoses was the fact that the classical Charcot hysteria is not sufficiently well known, and because these cases are not common in the general practice of a physician during times of peace The diagnosis of classical cases is easily made because of the characteristic symptomatology

The experiences gained in the war have confirmed this statement Restriction of the field of vision is frequently, although not always, present, sensory disturbances occur less often, and anomalies of mucous membrane reflexes occur very irregularly The hysterical character is usually not present, but vasomotor disturbances occur with astonishing frequency, likewise isolated muscle contractions Nonne demonstrated cases of isolated contractures of muscles in the peroneal group, and isolated contractures of the elbow joint, the flexor muscles of the thumb and the interossei In more than half of the cases the neuropathic tendency is missed even when the most careful anamnesis is made It is impossible to differentiate on the basis of complete absence, or preceding loss, of consciousness Experience has shown that a somatic trauma alone, aside from a psychogenic cause, may produce the hysterical syndrome. By far the most frequent traumas concerned in the etiology of this condition are, in the order named, shell contusions, wounds, fatigue and fear, finally, there are cases, by no means infrequent, in which a particular exciting cause cannot be demonstrated We have learned that the hysterical syndrome may, under unusual conditions, occur much more easily in a so-called normal nervous system than has heretofore been believed to be the case, and it is in these cases that Nonne has found the prognosis to be very much better under hypnotic treatment From the middle of October, 1914, to the middle of September, 1915, Nonne treated sixty-three cases of "grand hysteria" Fifty-one of these patients were cured, including twenty-eight 'rapid cures" and twenty-three cases in which the cure was effected more gradually By means of waking suggestions, Nonne succeeded in curing five patients after previous attempts had failed In three cases a cure was effected on the day following the hypnotic suggestion *(suggestion à échéance)* In one case dyskinesia amnestica remained unaffected even under deep hypnosis Twelve patients could not be cured, ten of these were refractory against hypnosis Only two became fully hypnotic A cure was effected in those cases only in which the hysterical syndrome was acute In those cases in which the development of the condition extended over days or weeks, a cure was effected correspondingly slowly The duration of the hysterical syndrome and a neuropathic tendency on the part of the patient did not alter the prognosis A cure was effected, even "rapid cures," in cases of from two to thirteen months' duration Some of these patients were refractory to the treatment because of a desire not to return to active duty Nonne cited five cases of stubborn generalized muscle tremor that yielded promptly to hypnotic suggestion He shows that hypnosis is entirely independent of neuropathic tendencies, general exhaustion and the consequent reduction of resistance, nor did he find any difference in producing hypnosis among people coming from different parts of Germany, from the city or country, or in various walks of life He frequently saw cases in which the subject yielded easily to hypnotic suggestion Nonne says that in such cases it is advisable to give the suggestion to the patient that others do not possess the same hypnotic influence over him Nonne cited four cases of this kind As to recurrence, Nonne admits that many of these cured patients will have a recurrence if they are subjected to the influence which produced the original attack That the ordinary garrison duty or field service does not play any part in the production of recurrence was shown by six cases cited Nonne calls attention to the advantages of hypnotic suggestion 1 Cures are frequent and rapid Nonne s patients had all been treated ineffectively for many months in various hospitals 2 Hypnosis may be regarded as a means of differentiation between 'organic" and 'functional" cases Nonne cites the case of an officer who received a grazing bullet wound of the left parietal region and developed a right-sided superior monoparesis with glovelike areas of disturbance of sensation of all kinds of the hands and fingers, but normal tendon and periosteum reflexes and absence of hemiparalysis In the hypnotic state sensation was normal, and after several treatments the patient was cured 3 Cases of stubborn tremors and tics of long duration as well as severe vasomotor disturbances were promptly healed by suggestion showing that these symptoms must have been purely functional 4 Hypnosis would be of great value in determining the disability of the individual, the degree as well as the duration, so that he can be returned to duty if he is fit for duty Nonne recognizes that difficulties lie in the way of the adoption of this procedure, particularly as time and patience are required, and the hypnotizer becomes fatigued rapidly and much more severely than does the hydrotherapist or the electrotherapist, nor can he rely on assistants

LONDON LETTER

London, Jan 13, 1916

The War

PREVENTION OF TYPHOID FEVER

If additional proof were required of the value of inoculation against typhoid fever, it is amply furnished by the latest figures given by the government From the beginning of hostilities *only* 1,365 cases of typhoid occurred among the British troops in France and Belgium These figures should be compared with the terrible record of the much smaller South African War in which over 20,000 cases occurred, or with the Spanish-American War The case mortality is about three times as great in patients who have not been inoculated as in those who have. The methods of preventing typhoid fever are very thorough In addition to inoculation, a careful search is made for carriers, and no man is employed in the commissariat department who gives a positive Widal reaction Public health work is carried out on a large scale by means of water analysis and water purification

THE RECRUITING OF PHYSICIANS FOR THE ARMY

The Central Medical War Committee (an organization initiated by the British Medical Association and recognized by the government) is completing a list of physicians of military age (that is to say, all under the age of 45) who have not yet joined the army Local and individual difficulties in abandoning civil practice are being fully recognized Lists of physicians in each area are being prepared to be forwarded to the War Office as soon as the committee is satisfied that the time has come for the physician in question to offer his services At least a month's notice is given Before sending in a man's name, the committee will take into account his responsibilities with regard to persons dependent on him and to partners, institutions or public authorities, while in the general interests of the country the medical needs of each area will be thought of and precautions taken so that the proportion to population of physicians remaining in civil practice may be equalized throughout the country There are residential areas in which the proportion of physicians in civil practice is much higher than in industrial districts, and further calls must be made on men practicing in such areas The war committee is aware that the conditions under which the public have been accustomed in time of peace to obtain the attendance of physicians cannot continue without modification The number of physicians who will be required by the army must depend partly on the development of military operations and partly on the amount of wastage among physicians already serving in the army The understanding is that when the army medical department needs more medical officers, it will state the number required to the Central Medical War Committee, that committee will then inspect the whole list of enrolled men and will select those who, from the information in the possession of the local medical war committees and the general information as to the whole country in the possession of the central committee, can be withdrawn from civil practice with least disadvantage to the public and to themselves The scheme under which physicians are now invited to enroll insures that they will engage under the conditions which have prevailed since the beginning of the war That is to say, the commission they promise to accept will be for a year, at the end of which time they will be able to review the position If the opportunity is lost and compulsion has to be faced, it is possible that the whole medical profession will be converted into a state service when compulsion on the individual will not be limited in time, but he will be required to serve at least for the duration of the war

The Insurance Act and the Pharmacists

Considerable dissatisfaction exists among pharmacists as to the working of the insurance act It may be remembered that a capitation fee of half a dollar per annum was allowed by the act for the cost of medicines The pharmacists claim that this amount is quite sufficient if the act is worked properly and physicians exercise due economy Unfortunately some do not, and if the amount of money allotted in a particular district on this basis is not sufficient to pay for the medicines the pharmacists have to submit to a reduction of their bills These bills are calculated according to a prescribed system—so much for the cost of the drugs according to the market prices, so much for establishment charges (*something under 2 cents per prescription*) and a dispensing fee (4 cents per prescription) Naturally the pharmacists object to having to pay the penalty of extravagance com-

A number of German soldiers taken prisoners by the Russian found that their knowledge of Esperanto was of the greatest help to them both in having their wounds cared for and in intercourse otherwise A green star is worn by those who know Esperanto, and this brought them comrades in many places In Siberia the Esperantists were able to secure many concessions for themselves and their fellow prisoners by their command of this universal language

Release of Bárány—The *Berliner klinische Wochenschrift* relates that Prince Karl of Sweden, who is the president of the committee appointed by the Red Cross to inspect the camps of prisoners of war, has informed the authorities at Vienna that Prof R Barany has been released from captivity in Russia It will be remembered that when the Nobel prize in medicine was bestowed on him in December, he had been taken prisoner by the Russians at the fall of Przemysl and was at that time in a prison camp at Merv, just east of the Caspian Sea He is expected to arrive soon in Vienna

Condition of Serbian Refugees Improved—Dr Edward W Ryan, who was in charge of the American Red Cross Hospital at Belgrade during the three bombardments of that city and who was recently authorized to cooperate with the American ambassador in Rome and the American Relief Clearing House in Paris in the relief of Serbian refugees in Albania, after a tour of Albania, has cabled the American Red Cross headquarters that the condition of refugees is improved, that one boat has already been chartered and that another will be chartered in a few days to carry refugees to Corsica

The Austrian University During the War—Professor Menzel of the law department is now rector of the University of Vienna It is stated that no less than 200 members of the medical faculty are in active service in the field and several have fallen The total registration is 400 less than the year before, but the women students number 300 more than ever before The classes are kept up as usual, but popular courses on domestic science and the care of the health have been organized, mainly for the benefit of teachers from other points Special courses on treatment of the wounded and other war subjects have been well attended The university has equipped and maintains a large hospital for the wounded, and its athletic grounds were loaned to the city for the raising of vegetables

Work of the Austrian Red Cross—A full report of the manifold activity of the Austrian Red Cross was published in the *Klin-therap Wochenschrift*, Nov 8, 1915, just received Two field hospitals, equipped for 300 wounded each, have been enlarged, one to a capacity of 2 000 The Red Cross has also three field stations for medical supplies and other articles, such as slippers, matches, pipes and paper There are still quite large supplies of drugs, etc, on hand, articles the supply of which has long since given out in civilian drug stores The Red Cross has further 890 hospitals, convalescent homes, etc, scattered over the country, representing a total of 95 000 beds The local transportation of the wounded to these various institutions has been systematically aided by the firemen's companies and athletic associations Medical supplies of value of over 6,000 000 crowns ($1,200,000) have been sent to the front, and nearly twice this has been spent in all Refreshments are served to passing troops and prisoners at all the railroad stations in Austria, and millions have thus enjoyed the hospitality of the Red Cross For the last few months the Red Cross has been using up the reserve funds accumulated in previous decades The Red Cross expedition recently sent to Bulgaria consisted of twenty-five hospital cars, and a two-car laboratory, with accommodations for 500 or 700 sick or wounded Major Potonkay is in charge of the train and Dr E Suchanek is the medical chief The personnel comprises six physicians and seventy-five nurses and orderlies

Protest Against Restriction of Exportation of German Medical Publications—The Journal mentioned recently (November 20, p 1830) that the military authorities in the marches or border states of Germany had issued orders that medical books and periodicals which might in any way help the enemy in conducting the war should not be sent out of the country An Austrian exchange, dated Dec 6, relates that the officers of the organization of German publishers and of the organized medical publishers have petitioned the authorities to countermand this order The petition emphasized the neutrality of medical science and expatiated on the fact that German medical literature at present stands at the head of medical literature the world around and that there is danger that it might lose this preeminent position if exportation is forbidden, especially to neutral lands Another argument advanced is that if the fruits of German medical science are to be cut off from the enemies' countries, then the sick and wounded German soldiers in captivity in these countries would suffer therefrom Besides all this, the financial existence would be threatened of a number of German publishers who depend exclusively on foreign customers The petition further asks for the definition and restriction of the prohibition to the exact special fields in which exportation of medical publications might actually wreak hardship on the Germans As the same mail brought us a three weeks' accumulation of the five leading weeklies in German, it is evident that the petition produced some effect There is, however, a gap of four or five numbers of each, preceding these issues The German custom of issuing certain periodicals irregularly, as material accumulates, has made it possible for journals of this "zwanglos" type to wait quietly until more favorable conditions are restored These are the ones usually to which we append the "Last indexed, June 5, 1915, p 1948" It has been one of the marvels of this war that the weekly mail from these distant countries has reached The Journal through all the disturbance as unfailingly as before the war Although often not in chronologic sequence, sooner or later the missing numbers have arrived until the stoppage by the censor of our German exchanges in November In 1912 one issue of a large number of our foreign exchanges was found missing from the files, the same date for all, and this was the week the *Titanic* was lost There has been no loss of mail comparable to this since the war began so far as our exchanges are concerned

BERLIN LETTER

Berlin, Dec 14, 1915

Personal

Prof William Stern, director of the psychologic seminar in Breslau, has received a call from Hamburg

Professor Gross, publisher of the *Archiv für Kriminal-Anthropologie und Kriminalistik*, died in Graz at the age of 67

The Prussian ministry of public instruction has ordered the erection of a bust of von Behring in the Marburg Institute for Hygiene in memory of the twenty-fifth anniversary of Behring's publication of his work on serum therapy

Hypnotism in War Hysteria

Professor Nonne recently delivered an interesting lecture before the Hamburg Medical Society on the value of hypnotism in the treatment of so-called war hysteria, a condition which, in his experience, is extremely common among the participants as well as among the injured Under this head Nonne places the motor and sensory nerve disturbances that are so frequently combined with vasomotor symptoms, with or without mental disturbance Cases of tic, stubborn tremor and severe and stubborn vasomotor disturbances Nonne regards as being functional and not organic or suborganic. The truth of this belief is confirmed by the good results obtained from hypnotic suggestion in the treatment of these conditions The causation of this hysteria may therefore be mechanical or pathologic or idiopathic, although the etiologic factors are frequently combined Nonne does not believe it justifiable to place in a separate classification cases of cramp neuroses, akinesia, dyskinesia amnestica, vasomotor syndrome, and fear and fright neuroses, and he warns against the use of a terminology which apparently indicates an unfavorable prognosis (traumatic neuroses) The war has shown that the conception that hysteria is merely a form of degeneration, as well as the freudian theory, are based on wrong premises Nonne has based his statements on experiences gained in his capacity of consultant in the reserve hospitals of Schleswig-Holstein and various hospitals of Hamburg Among 1,800 cases of war injuries there were twenty-six cases of pure neuroses agreeing with the statistics of Biss, Horn and others as to the frequency of traumatic neuroses Nonne cites cases of hysterical paralyses which were diagnosed as (1) plexus paralysis, (2) cerebral paralysis, (3) spinal paralysis, (4) organic cerebral lesions, (5) ischemic paralysis, (6) arthritis deformans, and (7) inflammation of serous membranes These wrong diagnoses were in many cases accepted in the various hospitals of which the patients were inmates It is said that the reason for these wrong diagnoses was the fact that the classical Charcot hysteria is not sufficiently well known, and because these cases are not common in the general practice of a physician during times of peace The diagnosis of classical cases is easily made because of the characteristic symptomatology unsatisfactory character of catgut in ligatures in continuity These were two cases of ligature of the femoral artery Very soon after ligature the pulse became perceptible and the artery became permeable below the ligature In the other case a catgut ligature *en masse* was twice followed by hemorrhage and hemostasis was secured only by a silk ligature What is the explanation of these phenomena? Is it the greater absorbability of catgut? Were the ligatures not drawn tightly enough? Was septicemia present? Chaput does not think that any of these furnish the explanation He believes that there was an alteration of the arterial walls which permitted the tunica media to support the ligature without breaking, and that there was an insufficient coagulation of the blood The silk ligature did not break the tunica media but its irritating action on the tissues and its prolonged presence inflamed the arterial walls, including the tunica interna, and thus produced a resistant clot Why is catgut ligature always sufficient in the case of severed arteries? Because in such cases the arterial stump beyond the ligature is invaded by proliferating tissue, which involves the whole wound, so that, after the catgut is absorbed, if the ligature itself has not produced obliteration of the caliber of the artery, the circulation is arrested by the obliteration produced in the arterial stump beyond the ligature

The conclusion to be drawn from these cases is that silk gives a more reliable hemostasis than catgut for ligatures in continuity, and that in case of repeated hemorrhages silk should be used in preference to catgut

KEEPING SERIOUSLY WOUNDED PATIENTS WARM AT THE FIRST AID POSTS

At the Reunion medico-chirurgicale de la V-armee, Dr Collin called attention to the necessity of systematically warming the seriously wounded patients who are always chilled by hemorrhages and by being undressed The staff should always have boiling water to fill the hot-water bottles used during transportation on the litter The first-aid post should be well warmed The litter bearer should be especially charged with the duty of replacing hot-water bottles under the coverings near the patient and of giving the patients hot coffee with alcohol The first-aid post should furnish hot water bottles to be placed in the ambulance for the transportation of patients to the rear

A PRACTICAL METHOD FOR THE DESTRUCTION OF THE EGGS OF LICE

Dr de Clérambault sent to the same meeting a note calling attention to the difficulty of destroying the eggs of lice in clothing since they adhere closely to the fabric and their envelope is resistant to antiseptics It is easy, however, to destroy them by means of a hot iron, either a tailor's or laundress' iron, which should be passed carefully over the seams so as to penetrate into the folds The seams of the sleeves, the collar, the belt and the flap of the trousers should be especially ironed with the point of the iron The operation is rapidly done and is efficacious It is well to give the work to men who were formerly regimental tailors It may be done quickly while the men are going through the douche and changing body linen

---

Marriages

Elmer Roy Grigg, M D, Anaconda, Mont, to Miss Lavina V Bartzen of Butte, Mont., in Helena, Mont, January 10

Claude L Sellers, M D St Louis, to Mrs Mildred J McCasland of East St Louis, Ill, in St Louis, January 20

William Thomas Collins, M D., Freeport, Ill., to Miss Gertrude Hollister of Lake Linden, Mich, December 25

Joseph Cyrus Steadman, M D, Jamaica Plains, Boston, to Mrs Mabel Taft Carver of Springfield, Mass, recently

Raymond John Neff, M D Oak Park, Ill to Miss Nina Beggs of Chicago, in Crown Point, Ind, January 18

William Thomas Frawley, M D, to Miss Eleanor Gertrude Doyle, both of Pittsfield, Mass., January 10

Robert Emmett McCarten, M D., Great Falls, Mont., to Miss Ann Shannon of Helena, Mont, January 14

Elmer Howard Hankey, M D Pittsburgh, to Miss Mary Elizabeth Walker of Ford City, Pa., January 19

David Troy Cheairs M D., Tillar Ark., to Miss Minnie Maye Taylor of Little Rock, Ark., January 20

Ralph Hanson, M D Spokane Wash, to Miss Kathryn Burris of Butte, Mont January 12

Deaths

Wesley W Townsend, M D Michigan College of Medicine and Surgery, Detroit, 1896, aged 42, a Fellow of the American Medical Association, surgeon to the Minneapolis, St Paul and Sault Ste Marie Railway, advisory surgeon to the steamship lines of Sault Ste Marie, Mich, formerly a member of the Association of Military Surgeons of the United States, a member of the visiting staff of the Sault Ste Marie General Hospital, while curling at the Soo rink, Sault Ste Marie, January 17, fell, striking his head, and died a short time later from cerebral hemorrhage

Patrick V Carlin, M D Denver College of Medicine, 1882, aged 61, a Fellow of the American Medical Association, formerly demonstrator of anatomy, adjunct lecturer on anatomy and clinical lecturer on obstetrics in his alma mater, physician to St Joseph's Hospital, Denver, consulting physician to Mercy Hospital, Denver, and consulting surgeon to the Colorado and Southern, Union Pacific, and other railroads, a member of the school board of Denver since 1903, died at his home in that city, January 16, from cerebral hemorrhage

Alfred Ira Noble, M D Medical School of Maine, Brunswick, 1886, aged 55, a Fellow of the American Medical Association and a member of the American Medico-Psychological Association, for ten years superintendent of the Michigan Asylum for the Insane, Kalamazoo, and one of the best-known authorities on the insane and psychiatry in the United States, while en route at a meeting of officials of state insane hospitals at Pontiac, Mich, died suddenly, January 20, in the Hotel Tuller, Detroit, from acute gastritis

William Henry Maynard, M D Syracuse (N Y) College of Medicine, 1883, aged 56, for more than thirty years a practitioner of Syracuse, prior to that time for two years physician to the Onondaga County Indian Reservation, died in the Women's and Children's Hospital, Syracuse, January 15, after a second operation for gastric ulcer The members of the Syracuse Academy of Medicine, of which Dr Maynard was a member and past president, attended the funeral in a body

William Irving Thornton, M D University of Buffalo, 1899, aged 37, a Fellow of the American Medical Association and a well-known practitioner of Buffalo, a member of the board of directors of the Lafayette General Hospital, Buffalo, physician to the Good Samaritan Dispensary and attending physician to the Buffalo Orphan Asylum, died at his home in Buffalo, January 16, from pleuropneumonia

James J Durrett, M D University of Maryland, Baltimore, 1897, aged 43, a member of the West Virginia State Medical Association, who had been ill as the result of a nervous breakdown, died at his home in Fairmont, W Va, January 19, from the effects of a gunshot wound of the head, self-inflicted, it is believed, with suicidal intent

Leonard Waterman, M D University of Michigan, Ann Arbor, 1913, aged 27, a Fellow of the American Medical Association, for a year after his graduation an intern in the Copper Range Hospital, Trimountain, Mich., and later of Norman, Neb, died in a hospital in Omaha, January 20, after an operation for appendicitis

Carl E Walbrach, M D University of Munich, Bavaria, 1898, aged 41, a Fellow of the American Medical Association, instructor in histology in the Denver and Gross Medical College, Denver, and visiting physician to the Denver County Hospital, died at the home of his father in Denver, January 16

Z Swift Webb, M D College of Physicians and Surgeons in the City of New York, 1848, aged 91, formerly a Fellow of the American Medical Association and of the New York Academy of Medicine, for fifty-five years a practitioner of New York City, died at his home in Woodbury, Conn, about January 20

Charles McCreight, M D University of Pennsylvania Philadelphia, 1900, aged 42, a member of the Medical Society of the State of Pennsylvania, and a graduate of the Philadelphia College of Pharmacy in 1894, died at his home in Philadelphia January 22 from cirrhosis of the liver

John Gilbert Spangler, M D College of Physicians and Surgeons, Baltimore, 1887, aged 55, a member of the Medical Society of the State of Pennsylvania, of Mapleton Depot, Pa while going over the Pennsylvania System at Mapleton, January 7, was struck by a train and instantly killed

Franklin Edward Wolfe, M D Long Island College Hospital, Brooklyn, 1890, aged 48, for several years attending physician to the State Feeble-Minded School, Medical Lake, Wash , died in St Luke's Hospital, Spokane, Wash , January 7, after an operation for the removal of gallstones

Winfield S Shafer, M D Eclectic Medical Institute, Cincinnati, 1886, aged 63, a Fellow of the American Medical Association, proprietor and superintendent of Woodlawn Hospital, Rochester, Ind , died at the home of his son in Chicago, January 22, from carcinoma of the liver

Henry M Jewett, M D College of Physicians and Surgeons, Baltimore, 1888, aged 56, formerly attending surgeon to the Roger Williams' Eye, Ear and Throat Infirmary, Providence, R I, and a practitioner of Providence, died at his home in Edgewood, Providence, January 19

Melvin Edmond DeGroat, M D Michigan College of Medicine and Surgery, Detroit, 1897, aged 51, a member of the Oklahoma State Medical Association, a specialist on diseases of the eye, ear, nose and throat, died at his home in Alva, Okla , January 11, from heart disease

Leo Achille Gauvreau, M D Laval University, Quebec, 1878, aged 60, supreme medical examiner and treasurer of the United Societies of Canadian French, for twenty-nine years a practitioner of Alpena, Mich , died at his home in that city, January 20, from heart disease

Henry Blank, M D Rush Medical College, 1885, aged 54, a Fellow of the American Medical Association, for twenty years professor of surgery in the Wisconsin College of Physicians and Surgeons, Milwaukee, died at his home in Milwaukee, January 12, from nephritis

Harold Walker Banks, M D Rush Medical College, 1897, aged 59, formerly of Escanaba, Mich , district surgeon to the Chicago and Northwestern Railway, local surgeon to other railways, died at his home in Brookfield (R F D Charlotte), Mich , about January 12

Benjamin Lundy Fussell, M D Jefferson Medical College, 1859, aged 75, for five years superintendent of a sanatorium in Spiceland, Ind , but prior to and after that time a practitioner of Markleville, Ind , died at his home in that place, January 16, from pneumonia

James Irving Tibbetts, M D Central College of Physicians and Surgeons, Indianapolis, 1883, aged 67, a Fellow of the American Medical Association and a well-known practitioner of Hennepin County, Minn , died at his home in Wayzata, Minn , January 5

Ephraim S Evans, M D Chicago Homeopathic Medical College, 1889, aged 76, a quarter of a century ago prominent in Columbus, Ohio, as a specialist on diseases of the eye and ear, died in the Franklin County (Ohio) Infirmary, January 17, from arteriosclerosis

Eugene Mark Worthen, M D Dartmouth Medical School, Hanover, N H, 1901, aged 43, a Fellow of the American Medical Association, died at his home in Ashland, N H, Dec 31, 1915, from pulmonary tuberculosis, after an illness of four years

Christopher Columbus Howell, M D University of Nashville, Tenn , 1872, aged 67, a member of the Tennessee State Medical Association and a practitioner of McNairy County, Tenn , for thirty years, died at his home, Dec 28, 1915, from pneumonia

Ernest Frank Nelson, M D Medico-Chirurgical College of Philadelphia, 1899, aged 46, a Fellow of the American Medical Association and a well-known practitioner of Grove City, Pa , died at his home in that place, January 18, from pneumonia

Edward Wright Groll, M D Harvard Medical School, Boston, 1893, aged 45, a member of the staff of the Binghamton (N Y) State Hospital for about four years, died at his home in Germantown, Philadelphia, January 5, from erysipelas

Daniel M Camerer, M D Rush Medical College, 1849, at the time of his death the oldest living graduate of that institution, aged 91, said to have been the oldest practitioner of Illinois, died at his home in Chrisman, Ill , January 29

David Joseph Hamburg, M D College of Physicians and Surgeons in the City of New York, 1894, a Fellow of the American Medical Association, died at his home in New York City, January 4, from pneumonia

John Pitts Colegrove, M D University of Buffalo, N Y, 1875, aged 83, who gave up practice in 1890 to develop and become an operator in the Chipmunk Oil Field, died at his home in Salamanca, N Y, January 15

Elisha Belcher Hyde, M D New York University, New York City, 1883, aged 67, who gave up the practice of medicine twenty years ago to take up the work of map making, died at his home in Brooklyn, January 14, from bronchitis

Frank H Pugh, M D Miami Medical College, Cincinnati, 1890, aged 53, a member of the Ohio State Medical Association, died at his home in Bryan, Ohio, Oct 28, 1915, from Stokes-Adams' disease

Thomas F Spillane, M D Detroit College of Medicine and Surgery, 1899, aged 42, a member of the Michigan State Medical Society, was found dead from heart disease in his office in Detroit, January 18

Luther Jackson Harvey, M D Washington University, St Louis, 1875, aged 64, a Fellow of the American Medical Association, died at his home in Griggsville, Ill., January 17, from cerebral hemorrhage

George Vander Berg Rockwell, M D Bellevue Hospital Medical College, 1882, aged 57, a retired practitioner of the Bedford section of Brooklyn, died at his home, January 10, from cirrhosis of the liver

Edmund Joseph Ball, M D College of Physicians and Surgeons, Chicago, 1900, aged 42, a member of the Board of Health of Mishawaka, Ind , died in West Baden, Ind, January 10, from pneumonia

John M McDuff, M D Memphis Hospital Medical College, 1888, aged 50, of Jourdanton, Texas, physician of Atascosa County, was found dead in a thicket near Pleasanton, Texas, January 10

James M Wood, M D University of Tennessee, Nashville, 1888, aged 55, a Fellow of the American Medical Association, died at his home in Greensburg, Ind, January 14, from gallstone disease

Absalom Jackson Flowers, M D Western Pennsylvania Medical College, Pittsburgh, 1891, aged 59, formerly a clergyman, died at his home in Fairmont, W Va, January 5, from arteriosclerosis

Arathena Bianca Drake, M D College of Physicians and Surgeons Boston, 1894, aged 87, for more than forty years a practitioner of South Boston, Mass , died at her home in that city, January 21

John Alfred Collins, M D Bellevue Hospital Medical College, 1869, formerly a member of the Medical Society of the State of North Carolina, died at his home in Enfield, N C, Dec 23, 1915

Samuel Dings, M D College of Physicians and Surgeons, Keokuk, Iowa, 1889, aged 57, a member of the Iowa State Medical Society, died at his home in Keota, Iowa, January 14, from pneumonia

Guy Holbrook, M D Albany (N Y) Medical College, 1866, aged 70, formerly a member of the Massachusetts and New Hampshire medical societies, died at his home in Boston, January 1

Robert Frederick Nitzsche, M D Rush Medical College, 1877, aged 86, a pioneer practitioner of Dubuque, Iowa, died at the home of his daughter in Dubuque, January 9, from bronchopneumonia

Joseph Watson, M D Medical College of Ohio, Cincinnati, 1876, aged 62, a Fellow of the American Medical Association, died at his home in Cincinnati, January 16, from cerebral hemorrhage

Richard L Stevenson (license, Morgan County, Ala., 1878), for forty years a practitioner of New Decatur, Ala , a Confederate veteran, died on his farm near New Decatur, January 13

Llewellyn D Chandler, M D Baltimore (Md) College, 1903, aged 32, formerly of Central Falls, R I , died at his home in Hammond, W Va , about January 10, from pneumonia

James Douglas Bryant, M D Long Island College Hospital, Brooklyn, 1892, aged 45, a Fellow of the American Medical Association, died at his home in Kingston, N Y, January 13

Harry F Boatman, M D Rush Medical College, 1902, for two years a member of the staff of the Independence (Iowa) State Hospital, died at his home in Los Angeles, January 10

Alonzo P Charlton, M D Jefferson Medical College, 1880, aged 56, also a druggist, died at his home in Philadelphia, January 12, from heart disease.

Albert T Koch, M D Bennett Medical College, Chicago, 1874, aged 76, for nearly half a century a practitioner of Wausau, Wis , died at his home in that place, recently, from influenza

John Fletcher Neal (license, Nebraska, 1891) aged 80, a practitioner since 1859, for more than fifty years a resident of Peru, Neb , died at his home in that place, January 10

William Hill, M D Eclectic Medical College of Pennsylvania, Philadelphia, 1865, aged 83, died at his home in Rochester, Ind , January 21, from ptomain poisoning

Charles F Kennedy, M D Northwestern University Medical School Chicago, 1887, aged 54, died at his home in Beatrice, Neb , January 8, from cerebral hemorrhage

David W Scott, M D Eclectic Medical Institute, Cincinnati, 1871, aged 83, for many years a practitioner of Freeport, Ill , died in Zion City, Ill , January 16

Wilson Brown, M D Missouri Medical College, St Louis 1878, aged 71, of Alto Pass, Ill , died January 16, at the Hale Sanatorium, Anna, Ill , from diabetes

Edward Thomson (license, Missouri, 1902), aged 67, an educator, author and lecturer of St Louis, died at the home of his son in San Antonio, Texas, January 15

H J Freeman (license, Missouri 1883) , aged 85, a practitioner for nearly sixty years, died in his apartment in Joplin, Mo , January 5, from senile debility

Eugene D Martineaut, M D University of California, San Francisco, 1873, aged 70, a veteran of the Civil War, died at his home in San Francisco, January 10

Norvel H Baker, M D Baltimore Medical College 1882, aged 59, formerly a practitioner and druggist of Gillette, Wyo , died in Sheridan, Wyo , January 10

E Parke Edwards, M D Grand Rapids (Mich.) Medical College, 1900, aged 43, died at his home in Highland Park, Detroit, January 10 from heart disease

Nicholas M Corbin, M D Medical College of Virginia, Richmond, 1864, aged 73, formerly of Point Eastern, Va , died in Ashland, Va , Oct 4, 1915

William W Bower, M D Detroit College of Medicine and Surgery, 1895, aged 50, died at his home in Camden, Mich , January 15, from influenza

Wyman Alexander Cameron, M D University of Toronto, Ont , 1915, aged 27, died at his home in Advocate, N S , October 1, from typhoid fever

William M Johnson, M D Physio-Medical Institute, Cincinnati 1885, formerly of Chillicothe, Ohio, died at his home in Redlands, Calif , recently

Samuel S Canby, M D Missouri Medical College St Louis 1878, aged 67, died at his home in Calhoun, Ill , January 17 from pneumonia

J B Wilson (license, Kentucky thirty-three years' practice 1893), aged 78, died at his home in Hardin, Ky , January 12 from pneumonia

William John McCauley, M D University of Michigan, Ann Arbor, 1912, aged 28, died at his home in Ellensburg, Wash., January 3

Mary A Nueneman, M D Penn Medical University, Philadelphia, 1881, aged 58, died at her home in Philadelphia, January 17

Jacob E Ensminger (license, West Virginia, 1881), aged 73, died at his home in Farmington, W Va , January 14, from pneumonia

Lewis M Leaming, M D Rush Medical College, 1895, aged 42, died at his home in Otterbein Ind., January 12 from nephritis

John M Tucker, M D Medical College of Georgia, Augusta, 1886, of Louvale, Ga , died in Columbus, Ga , November 10

Benjamin F Wayman (license, Illinois, 1878), aged 63, died at his home in Walnut Hill, Ill , January 5, from organic heart disease

John W Strickland, M D Medical College of Georgia, Augusta, 1899, aged 50, died at his home in Macclenny, Fla., January 15

Julius C Petit, M D College of Physicians and Surgeons, Keokuk Iowa, 1875, aged 73, died at his home in St Louis, January 12

Robert M Brown, M D Louisville (Ky) Medical College 1889, aged 60, died at his home in Bible Hill, Tenn , January 12

Association News

THE DETROIT SESSION

The Local Committee on Arrangements, and Suggestions for Making Hotel Reservations, with a Preliminary List of Hotels

The officers of the local Committee on Arrangements for the Detroit Session are chairman, Louis J Hirschman, treasurer, Thaddeus Walker, secretary, Ernest K Cullen The chairmen of subcommittees are Finance, Ernest W Haass, Entertainment, Arthur D Holmes, Registration, Frank B Walker, Printing and Publication, James H Dempster, Halls and Meeting Places, Frank B Tibbals, Scientific Exhibits, J Walter Vaughan, Commercial Exhibits, John N Bell, Hotels, Rolland Parmeter, and Automobiles, Angus McLean This committee has established an office at 33 High Street, East, Detroit All communications from Fellows to any members of the committee should be mailed to this address

It is the desire of the Committee on Arrangements to assist the Fellows in making hotel reservations, and Fellows are urged to make applications for reservations through the committee rather than by addressing the hotels directly On receipt of a request for a reservation, the committee will take up the matter and have the management of one of the hotels advise the Fellow of the reservation which has been made In making applications, Fellows should indicate the hotel at which they desire to be located, naming a second choice, they should indicate the number of rooms, whether with or without bath, they desire for the accommodation of their party, and state the rate which they are willing to pay When these reservations are made and confirmed, should anything occur which will prevent the Fellow occupying these quarters, he should at once ask the Committee on Arrangements for a release in order that the rooms may be available for others who may desire accommodations

A partial list of the available hotels, giving the number of rooms in each and the rates per day, follows A more detailed list is being compiled, and the local committee gives assurance that all who attend the annual session will be provided with comfortable accommodations The prices mentioned, except when otherwise indicated, are on the European plan

RATES AT DETROIT HOTELS

Hotel	No of Rooms	Rate per Day Single	Rate per Day Double
Addison	50	$2 00	$2 50
Berghoff	72	1 50	2 00
Brunswick	75	1 50	2 75
Burns	100	1 50	3 50
Cadillac	250	2 50	4 00
Carlsbad	82	1 50	2 50
Charles	85	1 50	2 50
Charlevoix	200	1 50	3 00
Clayton	70	1 50	3 00
Eldorado	100	2 00	3 00
Grand Union	48	1 50	2 50
Griswold	175	2 00 $2 50	3 00 $4 00
Henry Clay	240	1 50	2 00
Hoffman	200	1 25	2 50
Imperial	80	1 50	2 00
Lenox	210	2 00	3 00
Library Park	75	2 00	3 00
Madison	200	2 00	2 50
Marietta	25	1 50	2 00
Metropole (Stag)	70	1 50- 2 50	2 50- 3 00
Morgan	100	1 50	2 50
Normandie	105	1 50	3 00
Northern	20	1 00	
Norton (Stag)	68	1 50	3 00
Oriental (Stag)	80	1 25	2 50
Oxford	72	2 50	3 00
Ponchartrain	425	2 50	4 00
Pinehurst	20	1 50	2 00
Rexmere	37	2 00	3 00
Statler	1 000	1 50 5 00	3 00- 7 00
Ste. Claire*	100	3 50	7 00
Stevenson	150	1 25	3 00
Tuller	600	1 50	2 50
Wayne	175	2 00	3 00

* American plan

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

BROMID NOSTRUMS IN EPILEPSY

A few days ago THE JOURNAL received the following letter

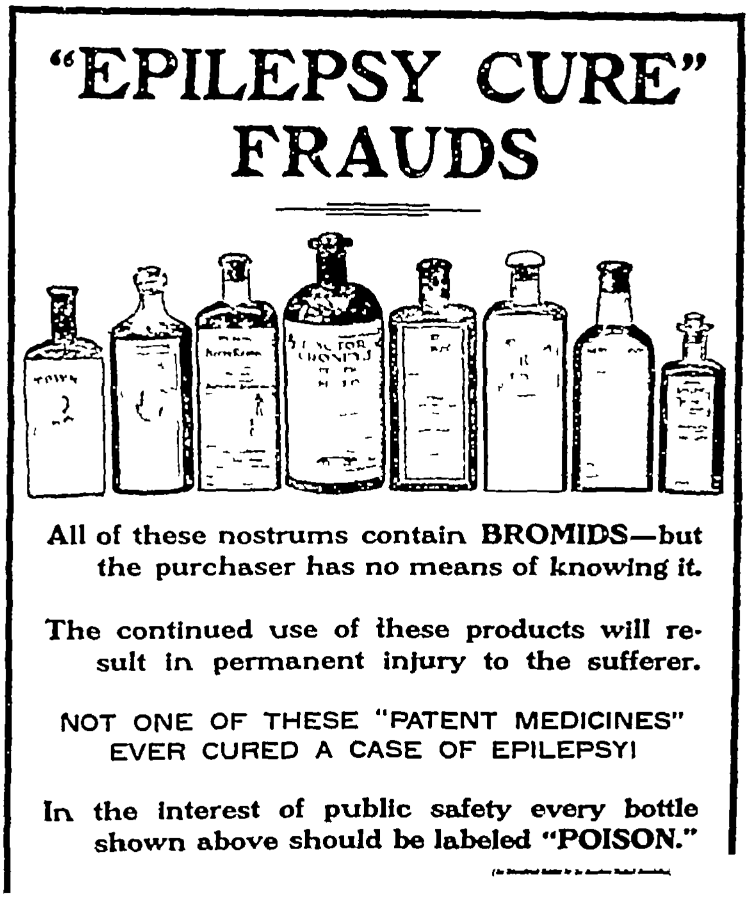
> *To the Editor* —A great many people have asked me concerning the remedy of a Dr F C Grant, of Kansas City, known as an epileptic cure Have you any record of this remedy? I suppose it is one of the usual fakes, but I would like to be armed with a proper knowledge in the matter T C WITHERSPOON, M D, Butte, Mont

The same mail that brought this letter from Butte, Mont, curiously enough brought the following from Welaka, Fla, which answers Dr Witherspoon

To the Editor —The issue of THE JOURNAL of Sept 4, 1915, page 894, contains reference to Grant's Epilepsy Cure, a proprietary nostrum made and sold by Dr F E Grant of Kansas City, Mo The laboratory examination by the Association's chemist shows this alleged cure to contain the following ingredients

"Alcohol (by volume) 1 50 per cent
"Potassium (K^+) (by weight) 4 57 per cent
"Sodium (Na^+) (by weight) 0 19 per cent
'Bromid (Br^-) (by weight) 9 76 per cent
"Chlorid (Cl^-) (by weight) 0 04 per cent

"The directions on the bottle call for Grant's cure to be given 'Two Teaspoonfuls after Breakfast and the Noon Meal Three Teaspoonfuls On Retiring' This means that the victim is unknowingly taking the equivalent of seventy grains of potassium bromid daily and yet Grant has the impudent effrontery to say There is nothing injurious to the system in this medicine'"



"EPILEPSY CURE" FRAUDS

All of these nostrums contain BROMIDS—but the purchaser has no means of knowing it.

The continued use of these products will result in permanent injury to the sufferer.

NOT ONE OF THESE "PATENT MEDICINES" EVER CURED A CASE OF EPILEPSY!

In the interest of public safety every bottle shown above should be labeled "POISON."

Miniature reproduction of one of thirty one educational posters prepared by the Propaganda Department and illustrating the nostrum evil and quackery The originals measure 22 inches by 28 inches Send for the complete catalogue of Lantern Slides and Exhibit Cards"

I desire to call attention to two important facts in connection with the use of this nostrum in the treatment of epilepsy The first is the presence of alcohol to the extent of 1 50% by volume It is difficult to conceive of anything more unscientific in the prolonged treatment of the Essential Epilepsies than the use of alcohol in *any* form and in *any* amount

With a brain whose cortical motor cells are perhaps congenitally deficient, undersized, or poorly insulated, and therefore more susceptible to irritation from the slightest chemical poison of any kind, it clearly stands to reason that all irritating substances should be rigidly excluded from the epileptic's diet and from any treatment that may be given him "Having a great affinity for water and being a coagulant of protein, alcohol tends to irritate and destroy cells It is therefore a general protoplasmic poison" (Bastedo)

I have never known of a single case of epilepsy cured by the bromids alone, although they possess a limited value in suppressing cortical irritability and in holding convulsions in check (if such action ever be beneficial), while other remedial agents that act through more vitalizing and reconstructive processes have time for action The administration of the bromids in epilepsy should be along systematic lines and under a definite rule of procedure, as the dose is of the greatest importance, and no one can determine the correct amount to be given without first making a personal study of the patient.

Nothing less scientific could be imagined than prescribing the same dose for all patients alike, and at long range, without any examination of the patient whatever, or without knowledge as to the particular type of epilepsy from which the patient is suffering The personal equation, the individual susceptibility, must always be taken into account in the prescribing of any drug Some epileptics of the *grand mal* type, who possess good stamina and an unimpaired digestive apparatus, can take with impunity from twenty to twenty-five grains of bromid three times a day for months Others, apparently of the same type and degree of stamina, are unable to take more than ten or fifteen grains three times a day under the same conditions without suffering from bromism gastro-intestinal disturbance, muscular enfeeblement, somnolence, loss of memory, etc Experience has taught those who see many cases of epilepsy that it is best in all cases in which it seems advisable to administer the bromids to begin *with from five to seven grains* three times a day, gradually increasing it to the point of physiologic toleration without inducing manifestations of bromism, and the average maximum dose that meets these requirements rarely exceeds from fifteen to seventeen grains three times a day

There is a point of toleration in each individual case beyond which it is not wise to go, and the epileptic in whom this exact point of toleration is found will be the one most benefited by the bromids In view of the foregoing it is my opinion that any remedy, or alleged remedy, for the cure of epilepsy that contains alcohol in any form or in any amount, or in which the bromid dose exceeds forty or fifty grains *daily*, even for the most violent and intractable cases, is wholly unscientific and will always do more harm than good In view of the extent to which 'epilepsy cures" whose chief ingredient is bromid, are advertised, and the wholesale and irreparable harm they do to epileptics who are prescribed for at long range, the Federal Government should require the fixing of a maximum dose of bromid in all proprietary preparations put on the market, and the amount of all the bromids combined should not exceed in dose from forty to fifty grains in twenty-four hours

D C MAIN, M D, Welaka, Fla

Some of our readers will remember that during 1915 the Association's Propaganda Department, with the aid of the Association's Chemical Laboratory, investigated a number of so-called epilepsy cures This material has been collected and published in pamphlet form[1] In addition the Propaganda Department has added to its list of Educational Posters dealing with the "patent medicine" evil a card on "Epilepsy Cure Frauds" This card we are reproducing in miniature on this page

Organizations and institutions that are concerned in the care or treatment of epileptics may find this material of educational value The Craig Colony for Epileptics of New York State, prepared an interesting and instructive exhibit on the subject of epilepsy at the meeting of the Conference of Charities and Corrections in Albany last November The Association's educational poster and a hundred copies of the "Epilepsy Cure Frauds" pamphlet for free distribution were part of the Colony's exhibit Dr William T Shanahan, superintendent of the Colony, wrote the Association after the meeting that the educational poster awakened interest and "the hundred copies of the pamphlet were in demand and we could have used more to advantage"

---

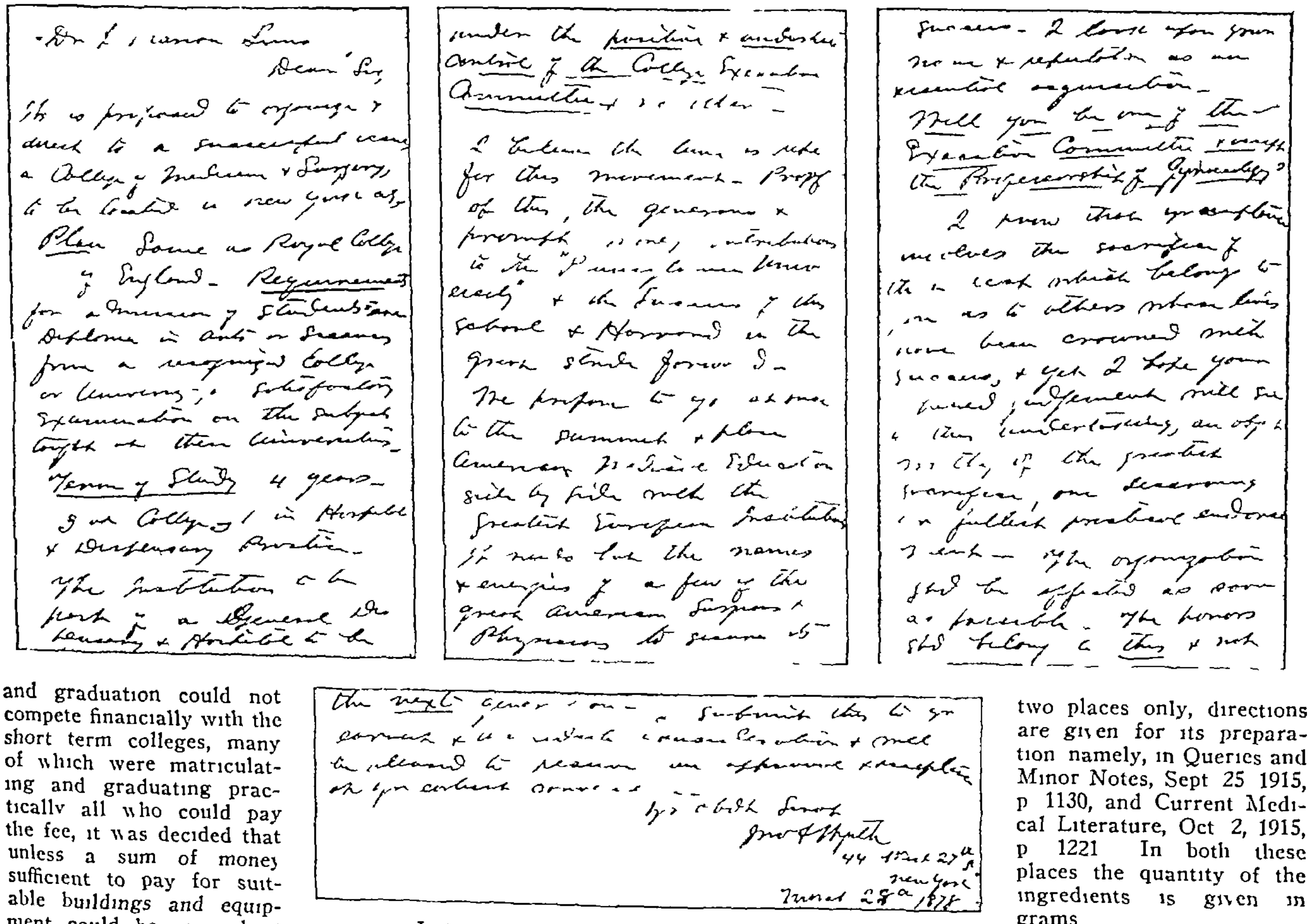
[1] "Epilepsy Cure Frauds," price 10 cents, postpaid

Correspondence

A Contribution to the History of Medical Education in the United States

To the Editor —In 1877 and 1878, I undertook the organization and establishment in New York City of a medical college, as set forth in the letter here reproduced The plan outlined had been submitted to several of the leading members of the profession, among whom were Profs Willard Parker, Frank H Hamilton, Lewis A Sayre, A Jacobi and others, and, without exception, they expressed an encouraging approval

In view of the very great probability that a school with such an advanced standard of requirements for admission and graduation could not compete financially with the short term colleges, many of which were matriculating and graduating practically all who could pay the fee, it was decided that unless a sum of money sufficient to pay for suitable buildings and equipment could be secured, it would be unwise to launch the enterprise For two years, I tried to enlist the aid of the few rich persons I could approach, but failed, and in 1881, my colleagues and I organized the Polyclinic, which represented the 'fourth year course' of the proposed school



Dr J Marion Sims

Dear Sir,

It is proposed to organize & direct to a successful issue a College of Medicine & Surgery, to be located in New York city.

Plan Same as Royal College of England — Requirements for admission of Students an Diploma in Arts or Sciences from a recognized College or University, or satisfactory Examination on the subjects taught in these Universities —

Term of Study 4 years — 3 in College, 1 in Hospital & Dispensary Practice —

The institution is to be part of a General Dispensary & Hospital to be under the positive & absolute control of the College Executive Committee & its officers —

I believe the time is ripe for this movement — Proof of this, the generous & prompt [illegible], introduction to the "[illegible]" & the success of this School & Harvard in the great stride forward —

We propose to go at once to the summit & place American Medical Education side by side with the greatest European Institutions. It needs but the names & energies of a few of the great American Surgeons & Physicians to ensure its success — I count upon your name & reputation as an essential [illegible] —

Will you be one of the Executive Committee & accept the Professorship of Gynecology?

I know that your acceptance involves the sacrifice of [illegible] which belong to [illegible] as to others whose lives have been crowned with success, & yet I hope your [illegible] judgement will see in this undertaking an object worthy of the greatest sacrifice, one deserving [illegible] fullest practical endorsement — The organization should be effected as soon as possible. The honors should belong to this & not the next generation — I submit this to your earnest & [illegible] consideration & will be pleased to receive an affirmative reply at your earliest convenience —

Yrs obdt Servt

Jno A Wyeth

44 West 27th St

New York

March 28th 1878

Letter written in 1878 by Dr Wyeth to Dr Sims

It will be recalled that a four years' course was first offered in the Harvard Medical School in 1880, but was not made compulsory until the fall of 1892

This same course was instituted in the medical department of the University of Pennsylvania, with the class that began in the session of 1893-1894, and graduated in the spring of 1897

The four years' course at Johns Hopkins opened Oct 1, 1893

The immediate and widespread interest which the medical profession in the United States took, and still holds, in organized postgraduate medical education, and the influence this movement has exercised, is expressed in a review copied from the Boston *Transcript* of Nov 17, 1914

> Nor can there be any question that the establishment of the Polyclinic was the chief stimulus to the advance of medical thought and science in the United States a *stimulus that was felt not only throughout this* country in all of whose important cities one or more postgraduate medical schools have been founded, but across the sea, as well, where this system has been adopted in London and other cities

John A Wyeth, M D, New York

Formula of the Dakin-Carrel "New Antiseptic"

To the Editor —This letter is written with the twofold purpose of securing information myself and of sparing others possible annoyance and trouble which I have myself experienced

The so-called Dakin-Carrel antiseptic solution has been the subject of reference in The Journal several times In two places only, directions are given for its preparation namely, in Queries and Minor Notes, Sept 25 1915, p 1130, and Current Medical Literature, Oct 2, 1915, p 1221 In both these places the quantity of the ingredients is given in grams

In a recently published report on the medicomilitary aspects of the European war by Fauntleroy, issued by the Navy Department at Washington, there is found, on page 52, some discussion of this antiseptic solution Here again the quantities are given in grams But reference is made to an appendix to the report which contains Dakin's original paper in English Fauntleroy does not give the source of this paper But in this paper the quantities of the ingredients are given in *grains* with no change in the figures I quote a paragraph from Dakin's paper, as given in the report, as follows

> Two hundred grains of bleaching powder are added to 10 liters of water, in which 140 grains of dry carbonate of sodium have been dissolved The mixture is well shaken, and after half an hour the clear liquid is siphoned off from the precipitate of calcium carbonate and filtered through cotton To the clear filtrate enough solid boric acid is added to render the liquid *acid* with an aqueous suspension of phenolphthalein, but *alkaline* to tournesol About 25 to 30 grains may be required The exact amount of boric acid to be added may be conveniently determined by the titration of 10 c c of the alkaline hypochlorite solution with a solution of boric acid of known strength (31 grains per liter) In preparing a dilute solution of the hypochlorite as the above, which will contain about 0 5 per cent NaClO [sodium hypochlorite], an excess of boric acid is unobjectionable, but in the case of stronger solutions an excess must be avoided

My attention was directed to the discrepancies in the quantities of the ingredients used (difference between grams and grains) by Assistant Surgeon J G Wilson of the staff of this institution A little experimentation showed that if the solution is made up in grams it is highly alkaline both to litmus and to phenolphthalein Made up in grains the reaction is still more alkaline than is stated, and required about 0 8 gm of boric acid per liter to neutralize as directed The boric acid used, however, was from a shelf bottle in the pharmacy and its origin is unknown This may account for the difference Further, if made up in grains, will the result be a 0 5 per cent solution of sodium hypochlorite?

To have published a formula of this character with such wide discrepancies in the directions for its preparation seems to me mischievous I cannot forbear criticizing Dr Dakin for his very unscientific jumbling of two systems of weights and measures He has the right of choice in using one or the other, but hardly both in this way His use of the two systems in this manner is, I believe the cause of all the confusion C H Lavinder, M D, Ellis Island, N Y

Surgeon, U S Public Health Service

[Comment —H D Dakin's original article, published in the *British Medical Journal*, Aug 28, 1915, p 318, was quoted verbatim in the abstract given of it on page 1221 of The Journal, Oct 2 1915 The only difference is that the word "gram" was written out in full while it was abbreviated to "gm" in the abstract given Dakin also presented a communication on the subject at the meeting of the Academie des sciences at Paris, Aug 2, 1915, which was published in full in the Society Reports of the *Presse médicale*, Aug 5, 1915, p 295

This seems to be a free translation of the article in the *British Medical Journal*, and the figures are the same in each, but instead of writing out "grams," the amounts are given as "200 gr", "140 gr," and "25 a 40 gr d'acide borique" This is the usual abbreviation in French for "gram" On a preceding page an article by another writer says of Javel's water that it is made by diluting with water the Javel extract which contains "96 gr de chlore par kilogr" Another article refers to a solution of picric acid as "1 20,000 (0 gr 05 pour 1,000")

Another translation of Dakin's original article was published in the *Presse médicale*, Sept 30, 1915, p 377, with a few added items The figures are the same "200 gr, 140 gr and 40 gr" The exact method for using the hypochlorite solution was described by Carrel in the *Bulletin de l'Academie de médecine*, Paris, Oct 5, 1915, p 361, certain mechanical preliminaries having been found useful in the field We have been unable to find the article by Dakin quoted by Dr Lavinder None of the foregoing communications from him specify the "tournesol test," and Dakin's recent historical sketch of the subject, summarized in The Journal, Jan 8, 1916, p 150, does not refer to any other articles by him (See Editorial, The Journal, this issue, p 430)—Ed]

The Digestive Properties of Blood —The blood is a highly active digestive fluid with a finely adjusted balance between ferment and antiferment, which will soon be better understood, and the solution of this problem will add another triumph to scientific medicine When the ferment in the blood is suddenly activated immediate death results as is seen in anaphylactic shock. When properly regulated, this delicate mechanism protects against harmful bodies, both those introduced from without and those generated within —Victor C Vaughan, *New York State Jour Med*, May, 1915

Queries and Minor Notes

Anonymous Communications and queries on postal cards will not be noticed Every letter must contain the writer's name and address, but these will be omitted, on request

INSEMINATION AND CONCEPTION

To the Editor —Please supply me with the accepted opinion concerning the physiology of the menses and their relation to ovulation. Some authors say that conception is least likely to take place ten days or two weeks just prior to the menstrual period If this is true, how is it explained? H W Long, M D, Elmwood, Ill

Answer —A distinction must be made between conception and insemination Embryologists believe that the discharge of ova occurs at menstruation, hence conception, the coalescence of an ovum and a spermatozoon, is most likely to occur within the week after menstruation It is supposed, however, that some graafian follicles may cast out ova at any time For this reason the rule that conception occurs just after the menses does not always hold good

Supposing that insemination, the deposition of seminal fluid in the genital tract, takes place before menstruation, as it is possible for spermatozoa to retain vitality in the vagina for at least seventeen days, even through a menstrual period, it is obvious that spermatozoa derived from an insemination preceding the menses may be the agents of a conception, which itself can occur only when an ovum is available, as stated, this is usually just after a menstruation

CIMEX LECTULARIUS, I E, BEDBUGS

To the Editor —Please give me a formula for an insecticide, chiefly for *Cimex lectularius* R. L H, M D, Woodville, Pa.

Answer —Fumigation and liquid applications are the most effective measures against these pests Hot water, liberally used, will destroy both eggs and bugs This is one of the best applications for use on objects that will not be harmed by it The petroleum oils (benzin, kerosene, etc) are effective if brushed or sprayed thoroughly into all crevices Benzin or any similar inflammable substance of course must not be used in a room containing a fire or open flame, and the fumes must be thoroughly dispelled before any light is brought into a room in which benzin has been used Carbon tetrachlorid has an advantage over benzin in being noninflammable, but its fumes are dangerous to inhale Rooms in which carbon tetrachlorid has been used should be ventilated thoroughly before being used Coconut oil also has been recommended as destructive of both the bugs and their eggs, it has the advantage of being noninflammable and nonpoisonous Mercuric chlorid solution is effective, but should not be used on metal surfaces The addition of glycerin to the solution has been suggested to prevent the mercuric chlorid from flaking off from the surfaces to which it has been applied, as the solution dries, and sifting about as poisonous dust Various more or less complex formulas have been published for mixtures of two or more substances already mentioned with alcohol, camphor or nitrobenzene ("oil of mirbane") The camphor and nitrobenzene serve to disguise the odor of the other constituents Otherwise these complex mixtures probably possess no advantages over the simpler applications

Any of these liquids may be applied to crevices with a feather, a fine brush, or an atomizer spray A convenient device is a wash-bottle with pointed tip and an atomizer bulb attached to the mouth-tube, by which a steady stream may be directed into crevices

A good way of ridding brass or iron beds of bugs is to place them outdoors or on a concrete floor, pour alcohol into all the crevices, and set fire to the alcohol, a burning newspaper may be passed under the springs Infested rubbish should, of course, be burned

Infestation of a room or a building may be so complete that liquid applications are not practicable as a means of destroying the bugs behind wall paper, in cracks in floors, behind wainscoting, etc. In such cases fumigation must be employed Fumigation by gaseous hydrogen cyanid is effective, but extremely dangerous It should never be employed except by an expert. Even then it probably should not be used in any part of an occupied building, as cases are reported of serious or fatal poisoning of persons who occupied one portion of a building while another portion was being fumigated with hydrogen cyanid gas, supposedly under all proper precautions Sulphur is both cheaper and less dangerous Two pounds of sulphur are used to each thousand cubic feet of space Metal objects, or objects with metal ic surfaces, such as picture frames should be removed from the room about to be fumigated Lest the burning mass should overflow and set fire to the room, the container in which the sulphur is to be burned (a coal-hod is good) should be placed in a wider pan with water in it All apertures keyholes etc, should be closed The room should be left closed for twenty-four hours, and should be thoroughly aired before being used again

The bedbug is said to have at least two insect enemies, the cockroach and the small red ant *(Monomorium pharaonis)* An instance is related in which infested barracks were entirely cleared of bedbugs through the incursion of enormous numbers of red ants

---

LITERATURE ON HYPERTHYROIDISM

To the Editor —Will you kindly refer me to those numbers of your publication which contain articles on hyperthyroidism?

William J Mathews M D Hoboken N J

Answer.—A reference to the semiannual "Guide to Current Medical Literature" of The Journal will reveal numerous references on this subject The following are a few

Porter M F Injection of Boiling Water in the Treatment of Hyperthyroidism The Journal July 12 1913, p 88

Plummer H S The Clinical and Pathologic Relationships of Hyper plastic and Non Hyperplastic Goiter The Journal Aug 30, 1913 p 650

Hemmeter J C Hyperthyroidosis of Intestinal Origin The Journal Dec 13 1913 p 2145

Wilson L. B Relation of the Pathology and the Clinical Symptoms of Simple and Exophthalmic Goiter The Journal Jan. 10, 1914 p 111

Sanford A. H and Blackford J M A Comparative Study of the Effects on Blood Pressure of the Extracts and Serums of Exophthalmic Goiter and of Other Substances The Journal Jan 10 1914 p 117

Watson, L F Injection of Quinin and Urea Hydrochlorid and Hyperthyroidism The Journal Jan 10 1914 p 126

Clark O Exophthalmic Goiter as a Clinical Manifestation of Hereditary Syphilis The Journal April 11 1914 p 1167

Portis M M and Bach I W The Non Specific Action of a Serum Prepared According to the Method of Beebe The Journal June 13 1914 p 1884

Beebe S P The Relation of Pathologic Conditions in the Nose and Throat to the Origin and Treatment of Hyperthyroidism The Journal Aug 29 1914 p 769

Mayo, C. H Hyperthyroidism abstr, The Journal Aug 29 1914 p 793

Billings, F Focal Infection, Its Broader Application in the Etiology of General Disease The Journal, Sept. 12 1914 p 899

Swasey E A Severe Case of Exophthalmic Goiter with Complete Recovery without Operation, Rest or Medication The Journal Nov 28 1914 p 1950

Clark, O Exophthalmic Goiter as a Clinical Manifestation of Hereditary Syphilis The Journal Nov 28 1914 p 1951

Waters C A. Roentgenization of the Thymus Gland in Graves' Disease The Journal April 24 1915 p 1392

Mental Changes in Exophthalmic Goiter editorial The Journal May 29 1915 p 1850

Blair V P Indications for Operative Interference in Goiter, The Journal June 5 1915 p 1896

"GRIP DON TS'

We are indebted to Dr Ravenel of the Department of Medicine of the University of Missouri for the following Grip Don'ts" They are taken from the *University Missourian* and, according to Dr Ravenel were written by Miss Margaret Murphy, a student in the University of Missouri

> Don t laugh at the grip It is a deadly and a dangerous thing
>
> Don t forget that the body has its own defensive agents and therefore
>
> Don t take a mess of quinin because it is good for malaria.
>
> Don t buy a bottle of Knockgrip or Gripout Pills because your druggist assures you they cured him
>
> Don t forget that if you have a weak spot such as a murmuring heart a weak kidney or a pet lung grip will discover it and make abundant use of it
>
> Don t forget that grip is preventable Therefore don t take it don t let down your physical resistance don t seek crowded places and don t forget to flee from sneezing wheezing persons
>
> Don t forget that grip is contagious — so don t spread it.
>
> Don t forget to rest long and ardently in bed if it does get you and don t make light of the extreme prostration that always results after grip has annexed your outlying provinces.
>
> Don t forget that in the phraseology of Ireland it is that spawn of the devil as killed ye off six weeks after ye was complately well of it"

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Connecticut Regular, New Haven, March 14 15 Sec Dr Charles A Tuttle 196 York St, New Haven, Homeopathic New Haven, March 14 Sec Dr Edwin C M Hall, 82 Grand Ave, New Haven, Eclectic, New Haven, March 14 Sec, Dr T S Hodge, 19 Main St, Torrington

Florida Homeopathic, Jacksonville, March 10 Sec., Dr J B Griffin St Augustine

Iowa Des Moines, Feb 8 10 Sec, Dr G H Sumner, State House Des Moines

Kansas Topeka, Feb 8 Sec, Dr H A Dykes Lebanon

Maine Portland March 14 15 Sec Dr Frank W Searle 776 Congress St, Portland

Massachusetts Boston, March 14 16 Sec Dr Walter P Bowers, Room 501, No 1 Beacon St Boston

Vermont Montpelier Feb 8 11 Sec Dr W Scott Nay Underhill

Wyoming Laramie, March 14 16 Sec Dr H E McCollum Laramie

Mississippi October Report

Dr E H Galloway, secretary of the Mississippi State Board of Health reports the written examination held at Jackson, Oct 26-27, 1915 The total number of subjects examined in was 8, total number of questions asked, 64, percentage required to pass, 75 The total number of candidates examined was 44 of whom 38 passed and 6 failed Two candidates were licensed through reciprocity The following colleges were represented

College	Year Grad	Per Cent
PASSED		
Birmingham Med Coll	(1914) 77 (1915)	76, 77 78 80 81 81, 84
Atlanta Medical College	(1915)	79, 80
Chicago College of Medicine and Surgery	(1915)	77
University of Illinois	(1913)	84
Tulane Univ of Louisiana	(1892) 91 (1912) 84 85 (1914)	81
Jefferson Medical College	(1914)	89
Meharry Medical College	(1915)	75 81
Memphis Hosp Med Coll	(1911) 81 (1912) 80 (1913)	76
University of the South	(1900)	88
Univ of Tennessee	(1914) 80 81 (1915)	77 80 81 86, 88 88
Vanderbilt University	(1912) 80 (1915)	75 80 81 83 84
Baylor University	(1915)	93
FAILED		
Birmingham Medical College	(1914)	73
Meharry Medical College	(1912) * (1913) 68 (1915)	66 71
University of Tennessee	(1915)	65

College	LICENSED THROUGH RECIPROCITY Year Grad	Reciprocity with
Atlanta School of Medicine	(1912) (1913)	Georgia

* Did not complete the examination

Florida Homeopathic November Report

Dr J B Griffin, secretary of the Board of Homeopathic Medical Examiners of Florida, reports the written examination held at Jacksonville, Nov 12 1915 The total number of subjects examined in was 8, total number of questions asked 80 percentage required to pass, 75 The total number of candidates examined was 4, all of whom passed The following colleges were represented

College	Year Grad	Per Cent.
PASSED		
Hahnemann Med Coll and Hosp Chicago	(1893) 75 (1909)	76
Hering Medical College, Chicago	(1913)	91
Hahnemann Medical College, Philadelphia	(1878)	80

Arizona October Report

Dr John Wix Thomas secretary of the Arizona State Board of Medical Examiners reports the written examination held at Phoenix, Oct 5-6 1915 The total number of subjects examined in was 10 total number of questions asked 100 percentage required to pass 75 The total number of candidates examined was 10 of whom 4 passed including 2 osteopaths and 6 failed including 1 osteopath and 2 drugless practitioners The following colleges were represented

College	Year Grad	Per Cent.
PASSED		
College of Physicians and Surgeons Los Angeles	(1914)	86 7
University of Illinois	(1914)	77 5
FAILED		
College of Physicians and Surgeons San Francisco	(1913)	71 8
Tulane University of Louisiana	(1905)	61 9
University of Oklahoma	(1912)	66 2

Arkansas November Report

Dr T J Stout, secretary of the State Medical Board of the Arkansas Medical Society, reports the written examination held at Little Rock, Nov 9-10, 1915 The total number of subjects examined in was 12, total number of questions asked, 120, percentage required to pass, 75 The total number of candidates examined was 14, of whom 10 passed and 4 failed Thirteen candidates were licensed through reciprocity The following colleges were represented

PASSED

College	Year Grad	Per Cent
Chicago College of Medicine and Surgery	(1915)	83 9
Keokuk Medical College, College of Phys and Surgs	(1908)	76 2
University of Louisville	(1891)	66 4*
Missouri Medical College	(1899)	63 6*
Meharry Medical College	(1915)	75 2
University of Tennessee	(1915)	76 2 79 1, 82
Vanderbilt University	(1915)	88
University of Virginia	(1915)	87 1

FAILED

College	Year Grad	Per Cent
College of Physicians and Surgeons, Little Rock	(1910)	50 8
University of Arkansas	(1912)	67 8
Meharry Medical College	(1912)	64 6
Vanderbilt University	(1913)	71 8

LICENSED THROUGH RECIPROCITY

College	Year Grad	Reciprocity with
Birmingham Medical College	(1911)	Mississippi
George Washington University	(1913)	Virginia
Chicago College of Medicine and Surgery	(1914)	Illinois
Illinois Medical College	(1900)	Kentucky
University of Louisville	(1915)	Kentucky
Tulane University of Louisiana (1898) Oklahoma, (1903) (1913)	(1914)	Louisiana
St Louis College of Physicians and Surgeons	(1898)	Oklahoma
University of Nashville	(1900)	Oklahoma
University of Tennessee (1900) Kentucky,	(1914)	Mississippi

* Credit allowed for years of practice

The following questions were asked

PRACTICE

1 Name four types of malarial infection, and give treatment of remittent fever 2 Give the etiology and treatment of acute tonsillitis 3 Give the treatment for habitual constipation 4 Differentiate between pleurisy with effusion and acute lobar pneumonia, giving treatment of the latter 5 Give the treatment of facial erysipelas 6 How would you make an early diagnosis of tuberculosis? 7 Give the treatment of ophthalmia neonatorum 8 Give the treatment of convulsions caused by nephritis 9 Give the medical treatment of ulcer of the stomach 10 Give the symptoms and treatment of pellagra

THERAPEUTICS

1 How do the following drugs act in intermittent malarial fever quinin methylene blue and eucalyptus? 2 What remedies should be used for hemorrhage from mucous surfaces? 3 What are the conditions in cystitis that contraindicate the use of alkaline diuretics? 4 What drugs would you use hypodermically to stimulate the heart, to produce emesis, to control hemorrhage? 5 Give the therapeutic application of drugs in the different stages of pneumonia 6 Mention the remedy which will arrest the secretion of milk, and state how it should be employed 7 What are the therapeutic uses of glycerin? 8 Describe the therapeutic uses and dangers of chloral hydrate 9 Differentiate the physiologic effects of the gastric juice and on the urine of the administration of potassium bicarbonate before and after meals 10 What are the therapeutic uses of tartar emetic?

MATERIA MEDICA

1 (a) What are antiseptics? (b) Disinfectants? (c) Give an example of each 2 Define a laxative and tell how it acts 3 Name the alkaloids of nux vomica 4 (a) Give the properties of chloroform (b) Name several preparations of chloroform 5 What evils may result from chemical incompatibility in prescriptions? 6 (a) What is the source of digitalis? (b) Give symptoms of digitalis poisoning 7 (a) What is the source of ergot? (b) Give physiologic action of ergot 8 (a) Name six official preparations of mercury (b) Give briefly the properties, uses and dose of each 9 Name the principal alkaloids of Papaver somniferum 10 Classify the following drugs according to their physiologic action sodium chlorid, sodium hydroxid, potassium citrate, adeps lanae hydrosus, epinephrin, fel bovis (ox gall), and ferri carbonas

PATHOLOGY

1 Give analysis of the urine of patients affected with autointoxication 2 A persistent low blood pressure is pathognomonic of what class of diseases? 3 In what diseases do we find arteriosclerosis, and to what conditions does it predispose? 4 What is the significance of an absence of chlorids in the urine? 5 Explain cause and describe minutely the formation of an epithelioma 6 Explain the formation of pus 7 Define leukemia, and discuss briefly the clinical phases in its progress 8 What pathologic condition is induced by chronic infections of the nose, throat, teeth or their accessory sinuses? 9 What is the pathologic significance of vertigo? 10 (a) When do secondary and tertiary symptoms of syphilis appear? (b) What is the significance of nocturnal headaches in syphilis?

BACTERIOLOGY

1 (a) Give method of blood staining (b) What is the normal blood count, and how is it affected by disease? 2 (a) What is the value of Widal's test for typhoid fever? (b) At what stage of the fever is it most reliable? 3 What general conditions predispose to bacterial infections? 4 (a) Give general method of procedure for staining bacteria (b) What are counterstains? 5 (a) What is the most effective method of sterilization? (b) How are culture mediums sterilized? 6 (a) Describe in detail the process of finding tubercle bacilli in the urine (b) Give method of determining the location of the infection (c) From what other bacilli would you have to differentiate them? 7 Name some of the diseases of which the pneumococci may be the chief etiologic factor 8 What culture medium is essential in the growth of the organisms producing the following diseases cerebrospinal meningitis, gonorrhea and diphtheria? 9 Mention five general or systemic diseases produced by micro organisms, and in connection with each give name and chief morphologic characteristic of organisms concerned 10 What is the cause of difference in the virulence of diphtheria?

OBSTETRICS

1 Into what stages is labor divided, and where do these stages begin and end? 2 Give diagnosis and management of a breech presentation What are the dangers? 3 Give indications for the use of forceps, internal podalic version and cesarean section 4 What are the causes of hyperemesis gravidarum, and the clinical features and the treatment of the condition? 5 What is placenta praevia? Name its causes, varieties, symptoms, dangers and treatment 6 Eclampsia etiology, premonitory symptoms and treatment? 7 Describe the delivery of the placenta after the method of Crede 8 Give two indications for the induction of premature labor, and describe one method of performing it 9 What are the symptoms of inevitable abortion, and how should a case be managed? 10 How would you manage a case of *primary post* partum hemorrhage?

ANATOMY

1 Name the articulations of the frontal and occipital bones What bones articulate with the radius? 2 Name divisions of the vertebral column, giving number of bones in each division What are distinguishing characteristics of cervical vertebrae? 3 What are the relations of the brachial artery? Name its branches 4 What spinal nerves enter into the formation of the anterior crural nerve, and what muscles does it supply? 5 Describe the origin, course and distribution of the renal arteries 6 Name the cavities, openings and valves of the heart 7 Name the coverings of a femoral hernia 8 Give origin and insertion of the following muscles biceps, pectoralis minor and popliteus. Give blood and nerve supply of each 9 Name the arteries and nerves which supply the duodenum What veins drain this region? 10 What structures are severed in an amputation about the middle third of the thigh?

SURGERY

1 Define inflammation, septicemia and pyemia What organs are most prone to pyemia? 2 What general term denotes control of hemorrhage? State all the methods which may be used to stop the flow of blood from a wound 3 What would be the proper treatment for backward dislocations of the femur at knee, with rupture of the popliteal artery? 4 Give causes, symptoms, diagnosis and treatment for acute suppurative osteomyelitis 5 Define shock, and state how you would treat same. 6 If called to a patient with a compound fracture of leg in lower third which had been produced by kick of horse in a barnyard, state in detail how you would treat such case 7 Define ankylosis give varieties also describe a surgical method for restoration of joint function in case of bony ankylosis of the knee joint 8 Give points of differential diagnosis between pyloric (or duodenal ulcer) and cholecystitis 9 Give varieties of ileus, and state some of the causes of each 10 Give symptoms, diagnosis and treatment of stone in ureter

HYGIENE

1 Name four points in personal hygiene to prevent acquiring or imparting tuberculosis 2 Name some special precautions a child should observe at school in order to avoid contracting disease 3 What is the hygiene of pregnancy, and what advice would you give a pregnant woman from a hygienic standpoint? 4 Give prophylaxis of filth diseases 5 What are the dangers from (a) the house fly? (b) The mosquito? (c) How would you exterminate them from a community? 6 (a) Name the chief sources of contamination of drinking water (b) Give several methods of purifying drinking water 7 Name some diseases that are communicated to man through cow's milk 8 Name all diseases due to micro organisms (b) Methods of transmission 9 What hygienic precautions should be employed around a patient with scarlet fever and diphtheria? 10 What necessary precautions should be taken to insure healthy sleep?

PHYSIOLOGY

1 (a) Give composition of blood, (b) function of blood as a whole (c) red cells (d) leukocytes 2 Trace the course of the blood, (a) complete cycle (b) in adult, (c) in fetus 3 Give the causations and describe the occurrence of dyspnea 4 Where and how are bread and butter digested? 5 Compare the work done by the liver on a protein diet with that done on a carbohydrate diet 6 What are the most prominent differences between the composition of the blood plasma, and that of the urine? 7 Why is the lymphatic system so essential to the human body? 8 Name parts of (a) the small intestines, (b) large intestines Give name and location of the glands found in the small intestines 9 How is the temperature of the body regulated and sustained? 10 What is the function of the medulla oblongata?

CHEMISTRY

1 (a) What is an element (b) Name five with symbols 2 (a) Give two methods of preparing oxygen (b) Give equation of one method 3 What is an acid, a salt, a base? Give example of each 4 Name the elements in the halogen group 5 Describe Marsh's test for arsenic 6 What do you understand by specific gravity? 7 Complete the following $NaCl + H_2SO_4 = ?$ $Zn + HCl = ?$ $AgNO_3 + HCl = ?$ 8 Describe Fehling's test for glucose, and explain chemical reaction 9 What is the reaction between granulated sugar and Fehling's solution? 10 Give the various steps in making a urinalysis.

GYNECOLOGY

1 (a) Name two causes of sterility in the male (b) Name three of sterility in the female 2 Name the objective signs of extra uterine pregnancy 3 Name two most common causes of dysmenorrhea 4 What symptoms of cystitis are first noted? 5 Name the indications for the use of uterine tampons following abortion 6 Name three varieties of fibroids of the uterus 7 Name three etiologic factors in acute endometritis 8 Give treatment for inoperable carcinoma of cervix 9 Would you remove in toto an ovary with a small cyst? 10 What are the objections to ventral fixation of uterus?

Book Notices

TEXT BOOK OF SURGICAL OPERATIONS ILLUSTRATED BY CLINICAL OBSERVATIONS FOR PHYSICIANS AND STUDENTS By Prof Fedor Krause Directing Physician Augusta Hospital Berlin and Emil Heymann M D Chief Physician Augusta Hospital Translated and Edited by Albert Ehrenfried A.B M.D , F A.C.S , Assistant Visiting Surgeon Boston City Hospital. In six volumes. Volume I Cloth Price, $6 Pp 267, with 294 illustrations New York Rebman Company, 1915

The principal feature of this work, which the authors believe should distinguish it from other operative surgeries, is that the various operations as described are from actual cases, the clinical histories of which are detailed As the end-results of the operations are frequently shown by illustration as well as noted in the history, an additional clinical value is given to the work over the usual textbook on operative surgery which deals exclusively with the mechanical part The opening chapters, as usual in works of this kind, are on general subjects, such as the preparation of the patient, anesthesia and after-treatment There is nothing specially new or unusual to note in these chapters, except that there is almost as much space devoted to the subject of local anesthesia as to all other methods, which is an indication of the increased popularity of this method of inducing anesthesia for surgical purposes In the chapter on local anesthesia, we find "As the result of reduced or practically suspended circulation in the injected limb, an early absorption of the drug takes place, etc" This is evidently an error, as the suspended circulation would greatly delay the absorption of the drug as is correctly stated further on Concerning the operations, the present volume deals only with operations on the face and its accessory cavities, including the orbit and the ear, and on the trifacial nerve and gasserian ganglion The description of the operation is good, as are also the illustrations, many of which are partly colored

DISEASES OF THE ARTERIES INCLUDING ANGINA PECTORIS. By Sir Clifford Allbut K.C B M.A M D Regius Professor of Physic in the University of Cambridge. Two volumes. Cloth Price, $9 per set New York The Macmillan Company 1915

These volumes are made up of articles and addresses which have been published before There has been revision and rearrangement, however, so that the chapters follow in not unnatural sequence and the subjects are treated in a fairly complete manner Yet, as the author himself recognizes in his preface, "there is something of the discursive about the work which has rather the form of a string of dissertations than of an orderly monograph" If we try to read the book connectedly and as a whole we become conscious of a good deal of repetition In a single lecture, address or essay this is not noticed So one may, perhaps, better enjoy the books by reading them as one would a series of essays a chapter at a time with a rest of days or weeks before reading another

The author's unusual command of English and his charm of style are noteworthy We feel at times that his ease of expression, his full vocabulary and his wealth of rhetorical resources lead him to pen sentences for the mere pleasure of writing them rather than because they add to the real scientific content of the book He is particularly happy and forceful in argumentation, and has the schoolman's delight in showing the weakness of a rival's logic or the dilemma into which his antagonist has fallen While the reading of these pages is enjoyable, we must admit that when controversy dominates one chapter after another it becomes a little wearisome We may illustrate what we mean by referring to his constant allusions to "coronarians' and to the absurdity of using the term 'false angina' or 'pseudo-angina' though we read later, with surprise his own description of "mock angina' But with such brilliant writing we may forgive repetition, the riding of hobbies and some inconsistencies in argument, even though at times we might wish for more of cold facts—such for example, as those of postmortem evidence—rather than logic or opinion

The volumes are in three parts, on arteriosclerosis aortitis and angina pectoris We need not repeat here the author's views on these conditions for they are well known He makes a strong case for the aortic rather than the coronary origin of the pain of angina pectoris, though he admits that the underlying pathology is not yet fully known (ii, 219) and that anginal pain is not alone aortic in origin (ii, 462)

For delightful reading full of suggestive facts and theories we may recommend these essays The author expresses the hope that while this book, the fruitage of many years of honest labor, may have the mellowness of age, it will not be found unsound Assuredly the fruitage is sound, and it has, moreover, the aroma and texture that mark its quality as of the finest

MARIE TARNOWSKA. By A Vivanti Chartres With an Introduction by Prof L. M Bossi of the University of Genoa Cloth Price $1 50 net Pp 303 New York The Century Company, 1915

This biography was written by Mrs Anna Vivanti Chartres at the suggestion of Professor Bossi of Genoa Daughter of an epileptic mother, and herself a pronounced neurotic from the time of puberty, Marie Nicolaievna early began having hystero-epileptic attacks whenever she desired to win her point with her stern, high-tempered, autocratic father She admits feigning epileptiform seizures in order to secure the cooperation of her mother for her elopement and marriage to the young roué of Kief, Vasili Tarnowsky Given her hereditary taint, given the maelstrom of debauch into which her husband was willing to drag her, what wonder is there that the frail moral fiber in her should have snapped? As long as her socio-economic position remained secure, Marie's vagaries were largely confined to risque flirtations Only when privation knocked at her door did she begin to use her fatal gifts of fascination in order to benefit herself financially and socially Once entangled in the cleverly laid meshes of the arch fiend Prilukoff, Marie Tarnowska, true to Slavic fatalism, ceased to resist, and descended rapidly from one moral abyss to another One cannot help feeling that Professor Bossi came under the spell of this fascinating, utterly irresponsible seductress of men, he would have us believe that simple medical or surgical treatment could restore his patient to 'complete sanity or moral well-being" A close perusal of the book forces one to the conclusion that heredity and environment have conspired to make of its unfortunate heroine (if such a term be permissible), a chronic psychopath The statement of Mme Vivanti Chartres to the effect that Marie Tarnowska "is and has been for some years past suffering from slow blood poisoning which causes periodic cataleptic seizures that imperil her life" is a fanciful one She has undoubtedly misquoted the medical authorities to whom she refers in her preface The book is fascinating and well worth reading It portrays a society—small but existent—familiar to one who has sojourned in any of the fashionable watering places or winter resorts of old Europe

CHARACTER AND TEMPERAMENT By Joseph Jastrow Professor of Psychology University of Wisconsin Cloth Price $2 50 net Pp 596 New York D Appleton & Co 1915

This is the first of a series of books to provide readily intelligible surveys of selected aspects of the study of mind and of its applications The book before us is a study of character and temperament from the point of view of a psychologist occupying a professorial chair It is by no means easy reading, indeed, to read the author's stately sentences and to grasp his inexorable logic is splendid psychologic discipline and makes for both character and temperament The volume contains much that needs rereading and profound study As our book market is flooded with literature of the light kind, it is refreshing to peruse a work requiring close attention The author is a master not only of psychology but also of the art of presenting it to nonpsychologists While the ordinary reader accustomed to the candy style of magazines and newspapers may find the book somewhat of a hard nut to crack, the medical man will have little trouble in following the author through the maze of psychologic rhetoric necessarily a part of any work on psychology

Medicolegal

State Not Liable for Death of Insane Person Committed to State Hospital

(*Smith vs State (N Y), 154 N Y Supp 1003*)

The Supreme Court of New York, Appellate Division, Third Department, affirms a determination of the board of claims, dismissing the claim filed in this case for the death of a man who, after having been adjudged insane and committed to the Manhattan State Hospital, escaped from the hospital, his body being found in the East River about two weeks later The court says that the claimant contended that there was presented in this case for the first time to any court the question whether the same rule of exemption of charitable and state institutions from liability for the neglect of their attendants applies to a person of unsound mind, who has been made an involuntary beneficiary of such an institution by the order of the court, as applies to a person of sound mind who has voluntarily accepted the benefits of the institution This man was committed as an indigent insane person to a charitable institution maintained by the state in its governmental capacity, at its expense, for the purpose of caring for and treating unfortunate persons of unsound mind His commitment to the state hospital was a right conferred by statute, and was indispensable both for his welfare and for the welfare of the community, and the court thinks that an implied waiver of liability of the hospital for the negligence of its physicians and attendants may be assumed in such a case, as well as in the case of an indigent sane patient voluntarily committed to a charitable institution Moreover, the claimant introduced no evidence whatever showing the absence of proper care on the part of the hospital attendants to prevent the man's escape, but relied on the assumption that the escape was itself prima facie evidence of negligence on the part of the hospital authorities, and that it threw on the state the burden of showing the manner of such escape, and that the escape did not occur through any negligence on the part of the hospital authorities or attendants But there was not in the record such legal evidence as would establish liability against an individual or a corporation in a court of law or equity, assuming that such individual or corporation could be held liable for the negligence of its servant The mere fact that the legislature allowed the claimant to submit the claim to the board of claims for determination was not a concession of the validity of the claim There was nothing whatever in the record indicating that the hospital authorities had notice of a suicidal tendency, or in fact that it existed The court thinks that the mere fact of the escape did not raise a presumption of negligence on the part of the hospital authorities in selecting competent attendants, or of negligence on the part of the attendants resulting in the man's escape

Not Liable for Alleged Loss of Sponge

(*Ruble et al vs Busby (Idaho), 149 Pac R 722*)

The Supreme Court of Idaho affirms a judgment in favor of the defendant, who, in performing an operation on a woman to remove the ovaries, fallopian tubes and vermiform appendix it was alleged negligently permitted a gauze or cheesecloth sponge to remain in the abdomen of the patient, which directly resulted in her death The court says that the defendant offered evidence showing the exercise of the care and skill which ought to be exercised by an operating physician in a case like this He testified that he found the intestines and organs in that part of the abdomen all bound together by adhesions, that, when he was about to close the incision, on his attention being called to the nurse having reported a sponge missing, he stopped and went carefully over every part of the abdomen and satisfied himself positively that there was no sponge there The operation was performed on the morning of the fifteenth of the month, and the evidence showed that the patient continued to do fairly well up to the twenty-fourth, when the defendant was unceremoniously dismissed from the case and three other physicians took charge of it These three physicians, having learned about a missing sponge, on the morning of the twenty-fifth performed a second operation, and two of them made five distinct searches for the sponge, before one of them claimed that he found it But it was sufficient to say that the defendant testified that after the nurse reported the sponge missing he made a most careful examination, and satisfied himself positively that there was no sponge there, while it further appeared that no sponge was used in the abdomen unless it had forceps, about 15 inches in length, attached to it The jury was called on to determine from the evidence whether the proximate cause of the death of the patient was the negligence of the defendant in the performance of the operation, and it devolved on the plaintiffs to prove the material allegations of the complaint by a preponderance of the evidence, and the court correctly instructed the jury that in order for the plaintiffs to recover they must satisfy the jury by a preponderance of the evidence as to the justice of their claim, that they must produce evidence in support of the material allegations of the complaint, which, in the judgment of the jury outweighed the evidence of the defendant In other words, if the testimony was evenly balanced, they must find for the defendant, and the plaintiffs could recover only in case their testimony outweighed that of the defendant One of the allegations of the complaint was that the defendant negligently and carelessly left in the abdomen of the patient a certain sponge which caused her death, and it was necessary for them to prove that the result of the alleged negligence was the cause of the death of the patient in order to recover in this case On a careful review of the instructions given, the court is satisfied that they fairly covered the case made by the pleadings and the evidence It was apparent from the evidence in the case that the patient, after having been operated on, and her intestines found to be one adhesive mass, and the adhesions separated, and ten days after another operation was performed, when five careful searches were made through her intestines for a sponge that was supposed to be lost, and her intestines were found at that time to be again an adhesive mass, the adhesions being again broken up, the jury were fully justified in finding under such evidence in favor of the defendant

Undertaking of Physician and Duty of Patient

(*Merrill vs Odiorne (Me) 94 Atl R 753*)

The Supreme Judicial Court of Maine grants the defendant's motion for a new trial in this case where a verdict was rendered against him for damages resulting from alleged negligence on his part in the reduction and treatment of a fractured limb The court holds that a physician contracts with his patient that he has the ordinary skill of members of his profession in like situation, that he will exercise ordinary or reasonable care and diligence in his treatment of the case, and that he will use his best judgment in the application of his skill to the case The physician is not an insurer He does not warrant favorable results If he possesses ordinary skill, uses ordinary care, and applies his best judgment, he is not liable even for mistakes in judgment But in cases of this nature a duty devolves on the patient In an extensive note to be found in the case of Gillette vs Tucker, 93 Am St Rep at page 662, on the authority of cases there cited it is held that it is the duty of a patient to follow the reasonable instructions and submit to the reasonable treatment prescribed by his physician or surgeon If he fails in his duty, and his negligence directly contributes to the injury, he cannot maintain an action for malpractice against his physician or surgeon, who is also negligent in treating the case In the absence of any exceptions to the instructions of the presiding justice, this court must assume that these principles of law were correctly stated to the jury It is the opinion of the court, however, on a careful examination of the evidence that the jury did not give due consideration to that part of the testimony which related to the conduct of the plaintiff and its effect in producing the unfortunate results from which he now suffers Hence the verdict was so erroneous as to demand an affirmative finding on the motion of the defendant for setting aside the verdict and granting a new trial

Miscellany

Report of Committee Appointed to Study the Dangers of Repeated Serotherapy

The committee included Achard, Chantemesse, Marfan, Netter, Siredey and three others It was appointed by the Societe medicale des hopitaux de Paris to study whether the danger of anaphylactic phenomena is sufficiently imminent to render it inadvisable to apply serotherapy oftener than a single time. The report is published in the *Bulletins* of the society, 1915, xxxix, 1076, and fills nearly twenty pages, discussing in turn experimental research on the subject of reinjections, clinical experience and the immediate and remote accidents that have been observed in man The report also discusses reinjections made by the subcutaneous, intravenous and intraspinal routes, summarizing all the known mishaps and discussing the treatment Two cases are on record of sudden death after reinjection of antiplague serum or diphtheria antitoxin (Richet and Dreyfus), and the first is not conclusive The five conclusions of the report are that the accidents which have been signaled after subcutaneous reinjection are extremely rare and occur only under very exceptional circumstances The danger of anaphylactic accidents is so remote that it should not be regarded parallel with the risks to which the patient is exposed by abstention from the needed subcutaneous serotherapy Intravenous reinjections are not needed in ordinary practice, they should be reserved for special cases, such as bubonic plague and severe tetanus The indications for *intraspinal reinjections* will become more and more exceptional if meningitis is treated properly from the first with massive and repeated doses One should not hesitate to reinject the serum in case of relapse with meningococci in the lumbar puncture fluid In any event, a physician can never be reproached for reinjecting the therapeutic serum in prophylaxis or treatment.

Local or general anaphylactic phenomena occur regularly in animals, but in man such accidents are very rare, they occur without any regularity, they are not so severe as in animals, and they seem to depend on an individual hypersusceptibility Subcutaneous reinjections are generally harmless General accidents after intravenous or intraspinal reinjections are very rare and inconstant, but still, as they are liable to occur, it is well to be prudent. When a possible predisposition is afforded by severe intoxication or infection, convalescence from a microbian disease, tuberculosis, a predisposition to urticaria, asthma hay fever, and those incommoded by odors it is wise to inject the first few cubic centimeters of the serum very slowly and gradually—whether it is a primary injection or a reinjection—and stop at the slightest incident, waiting for an hour before continuing the injection By this means the susceptibility is tested and all serious accidents are avoided Injecting the serum very slowly is also always advisable in intravenous or intraspinal injections or reinjections This precaution is generally sufficient in all injection technic If the intravenous or intraspinal injection is not urgent, it might be preceded by an intravenous or subcutaneous injection of a small amount of the serum (Besredka's method), injecting the rest of the serum an hour later, but always very slowly

Whooping Cough

The whooping cough clinic established in New York by the municipal health department in August 1914, has made a report of its first year of work, which is summarized in the November *Monthly Bulletin* of the department of health The total number of patients treated was 1,397, and over 12 000 treatments were given. The plan of treatment has finally resolved itself into a treatment by a vaccine, supplemented by an antipyretic mixture and cod liver oil emulsion, the latter to be used in cases in which there is considerable bronchitis The vaccines have been prepared in the laboratory of the board of health and under the use of this agent the paroxysmal stage of the disease has been limited on an average to a duration of about three weeks Prophylactic immunization has been practiced in forty-five cases with no disease among these children Four out of eleven exposed patients treated with the antipyretic alone as controls contracted the whoop, and eight out of thirty-six persons not treated became infected The method of treatment consists in giving three or four subcutaneous injections, one every other day, and following this by the antipyretic mixture for a period of three or four days The whoop usually disappears between the third and fourth injections, if it does not, another course may be given. The initial dose for children less than 1 year of age is 250 million organisms, doubled every second day Children over 1 year old receive an initial dose of 500 million and adults 1 billion The prophylactic dose consists of three injections of 500, 1,000 and 2,000 millions at three-day intervals It is said that the establishment of the whooping cough clinic is warranted, no matter what method of treatment is employed, and several other clinics will probably be established Many private physicians have asked consultation with the physician in charge of the whooping cough clinic

Society Proceedings

NEW YORK ACADEMY OF MEDICINE

Regular Meeting, held Jan 6 1916

The President, Dr Walter B James, in the Chair

Importance of Syphilis Often Unsuspected, in the Production of a Number of Apparently Unrelated Disorders

Dr Lewellys F Barker, Baltimore In seven cases of syphilis, the existence of the disease was denied and the patients presented symptoms respectively of bronchiectasis following pneumonia, sacculated aneurysm, general arteriosclerosis, indolent swelling of the tonsil, epilepsy, sudden loss of vision in one eye, diabetes mellitus with aphasia, and general atherosclerosis The Wassermann test was positive in every one of these cases, and every one of the patients improved under antisyphilitic therapy There are eighteen conditions in which it is especially important not to overlook the possibility of an existing syphilis There are long continued fever otherwise unexplained, obscure nervous cases, both functional and organic, chronic laryngitis, tracheal and bronchial stenosis, bronchiectasis and unexplained infiltrations of or masses in the lungs and pleura, aneurysms, aortic insufficiency especially when unaccompanied by other valvular lesions, heart block and other cardiac arrhythmias, arterial and venous thrombosis, certain grave anemias paroxysmal hemoglobinurias, indolent nodules in the tongue and tonsils, enlargements of the liver and spleen, strictures of the rectum, atypical joint diseases, and especially obscure diseases of the spine, thickening of, or nodules in the bones, especially when accompanied by nocturnal pain, unusual forms of renal disease, chronic orchitis, or nodules in the testes, repeated miscarriages without apparent cause, stillborn children and disorders of metabolism and of internal secretion, especially in bizarre cases Among the many conditions often believed to be syphilitic in origin, and in which sometimes it has to be admitted that a syphilitic factor is present, but which often occur in the entire absence of syphilis are cerebral apoplexy, high blood pressure cases, contracted kidneys, multiple sclerosis, certain suspicious lesions, especially those due to sporotrichosis, or blastomycosis of the bones, lungs or subcutaneous tissue, psychoneurotic states accompanied by syphiliphobia, and exophthalmic goiter The more my experience grows the more am I inclined to take as a diagnostic aphorism, "When in doubt have a Wassermann test made, when not in doubt, still have a Wassermann test made"

Syphilis in General Surgery

Dr. Edward Martin Philadelphia The lesions of syphilis unlike all other infections, are so consistently effectually and promptly bettered or cured by medication, that with some exceptions, operative measures constitute a species of malpractice. Hence to the surgeon, the questions of the incidence and diagnosis of syphilis are major ones. A clinical examination of the West Point cadet corps failed to show a single case of syphilis, but a Wassermann test indicated a 5 per cent. incidence, from which it seems clear that from 2 to 5 per cent. of the commissioned personnel of the army are syphilitic at the time they enter the service. Since applicants to West Point are practically picked men, the prevalence of syphilis among college men in general is probably slightly greater than it is among West Pointers. From a Wassermann survey of the candidates for enlistment, Vedder concludes that about 20 per cent. of the young adult male population from which the army is recruited is affected with syphilis. Out of 100 cases taken at random from the medical wards of the University of Pennsylvania Hospital, there was a positive Wassermann reaction in nineteen, and of these only two gave clinical evidence of syphilis. These patients entered the hospital for the cure of diseases ranging from cholecystitis, renal sclerosis, gastric ulcer and tuberculous pyelonephritis to goiter, and most of them exhibited neither characteristic history nor clinical signs of specific disease.

With reference to diagnosis, the surgeon asks two questions: 1. Is the lesion under consideration syphilitic? 2. If not, has an underlying syphilis a distinct influence on its progression or on the outcome of surgical intervention undertaken for its cure? If these two questions can be answered in the negative, the query as to whether the patient has or *has not syphilis* is of minor immediate moment, though it is true that the spirochete, exhibiting a special predilection for the perivascular tissues and the heart muscle, by the devitalizing effect consequent on impaired nutrition, predisposes to all other infections, to neoplasms and to slow ulcerative processes. Not infrequently chancre, occupying other than its usual habitat, is regarded as epitheliomatous, and excision is ordered. This is particularly true of digital chancre as it affects medical men; it is painful, persistent and atypical in appearance, and not until it has been cut, curetted, cauterized and otherwise stimulated to wider growth, and usually not until the axillary nodes have been excised by a sympathetic colleague, does the patient come to "the man higher up," by which time a positive Wassermann and a secondary eruption establish the diagnosis, which should have been made by microscope weeks *before*. The *major* difficulty experienced by the surgeon is in the distinction between gumma and malignant tumor, a difficulty greater than ever before, since the profession is waking up to the need of early intervention, and differential diagnosis of tumor cases in the early stage of development is impossible.

Concerning bone swellings, the Roentgen ray, even at the early stage, enables the determination with a fair degree of certainty of the syphilitic, the tuberculous or the neoplastic nature of the enlargement. But no such help is afforded in tumor of the soft parts. Here the method of choice is microscopic examination, wide excision when it involves neither crippling nor gross deformity, or laboratory tests and the effect of vigorous antisyphilitic treatment. When the lesion is surely nonsyphilitic, though the Wassermann test is positive, the question arises as to supplementing the surgical procedure by specific treatment; or, if it be accepted that a positive Wassermann is proof of active spirochetes and that a harmless course of treatment will either quiet or kill them, would any but an affirmative answer seem logical? A reason for not so answering and acting is based on the absence of gross functional or structural changes.

Syphilis in Neurology

Dr. Joseph Collins: It is generally believed that certain diseases of the nervous system with definite unvarying lesions have their sole origin in syphilis; these are tabes, general paresis and most instances of cerebral and spinal endarteritis. With all the diagnostic means at our disposal, these offer little or no difficulty of early recognition, and their successful treatment rests on their early detection. There are, however, many other diseases of the nervous system whose origin is in syphilis which are not attended with pathognomonic subjective or objective symptoms. These are far more numerous than the rank and file of the profession suspect. They parallel in their clinical display nearly every organic disease of the central nervous system and many of the functional ones. I have tabulated 245 cases that have been diagnosticated syphilis of the nervous system, and distributed them under the various diseases to which they conformed clinically. This list justifies the statement that syphilis is of great importance in the production of a number of apparently unrelated disorders, and that syphilis of the nervous system may display itself in the guise of nearly every functional and organic disease of the nervous system that pursues a subacute or chronic course. When such conditions are due to syphilis, they are more amenable to cure than when due to other causes. This fact is the chief incentive to the detection of their origin. One should suspect syphilis as the cause of disease of the nervous system in every instance in which the cause is not obvious. One must make the diagnosis conclusively of syphilis of the nervous system in every instance in which a positive reaction is found on more than one occasion and by different observers in the blood serum and spinal fluid. In the case of a negative laboratory report, the diagnosis of syphilis is not made unless at least one of the pathognomonic symptoms exists. Of these the most important is the pupil of irregular outline which does not respond to light. In a general way it may be said that the occurrence of headache, fugitive or persistent pains in the neck, the extremities, the trunk, stiffness, paresthesia, disorder of urination, transient ocular palsy or mental depression without obvious attribution *should suggest* syphilis. Yet it would be absurd to say that any or all of these symptoms were so suggestive of syphilis of the nervous system that the diagnosis should be made. In 465 cases of suspected syphilis, the Wassermann reaction was positive in 150. Serologic studies are of enormous importance in all cases in which there is any suspicion of involvement of the meninges. There are frequently many difficulties in determining the diagnosis in pseudoparesis and general paresis, disseminated cerebrospinal syphilis and insular sclerosis, syphilitic myelitis, syphilitic muscular atrophy, cerebrospinal meningitis in the guise of syringomyelia, syphilitic root neuritis and acroparesthesia, neurasthenia, *redivivus*, insomnia, epilepsy, neuritis and polyneuritis, shivering attacks, and choreic movements and rheumatism dependent on syphilis of the nervous system which are best brought out by citing individual cases. Multiplicity of symptoms has been regarded as a striking feature of syphilitic disorders, but this allegation is not founded on fact. Many patients who furnish the foundation for this contribution had only one or two symptoms, or at least that was all they related. When the symptoms indicate that the entire cerebrospinal axis is involved, the best designation that can be given these cases is cerebrospinal meningitis, predominantly vascular, or parenchymatous. In the treatment of syphilis of the nervous system one must take cognizance of both the disease and the individual; for the former, salvarsan and mercury; for the latter, consideration and encouragement.

DISCUSSION

Dr. Bernhard Sachs: The point of view regarding syphilis as an etiologic factor in nervous diseases is of tremendous importance. I have been impressed with the large number of cases of grave syphilis that exist. There are cases of cortical encephalitis which yield promptly to treatment, but, perhaps, the gravest of all forms of syphilis are the cases of basilar syphilis, in which symptoms begin with the involvement of the cranial nerves. These cases begin, as a rule, with general malaise, followed by rigidity, headache, intracranial pressure and marked respiratory and bulbar symptoms. The next gravest group of cases are those of cortical encephalitis, but many of these yield to treatment. The number of cases of idiopathic epilepsies is growing smaller and smaller; some of the cases that appear in adult life without renal or cardiac disease are unquestionably of syphilitic origin. I would take issue with what has been said with regard to the diseases supposedly due to syphilis; syphilis can be associated with every form of central nervous disease. Regarding the inclusion of typhoid spine, that gives me the opportunity of speaking of a group of cases of syphilitic spondylitis I have encountered many of these cases, in which the tuberculous and traumatic elements could be excluded, and in which the examination of the blood and spinal fluid led to the diagnosis The greatest of all surprises in regard to the syphilitic origin of the disease has, in my experience, occurred in trigeminal neuralgias There were many cases that would not yield to any form of treatment, but after the administration of salvarsan and mercury the neuralgia disappeared promptly I would paraphrase Dr Barker's remarks "If in slight doubt make a Wassermann, if in grave doubt, have it done by two or three observers"

Dr. Hugh B Blackwell Attention has not been called to syphilis as it affects the auditory nerve In the advanced cases of deafness it is almost impossible to help these patients, but if the cause of the condition is recognized early and active treatment is instituted, this grave condition may be prevented The general practitioner should be more on the lookout for these cases

Dr. Leon T LeWald Out of a series of 2,000 cases referred to us for examination, syphilis of the stomach was demonstrated in eleven instances Some of these cases had been submitted to operation In these cases no microscopic examination was made, and what was removed was considered to be either an ulceration or a new growth

Dr Max Einhorn Syphilis of the liver may simulate cancer Under antisyphilitic treatment these patients do well

Dr. Jerome M Lynch It is important that the surgeon should be on his guard and eliminate syphilis, since without taking due precaution, he may aggravate the condition by his activity As an illustration, a man was referred to me who had been suffering from hemorrhoids and had been treated at various clinics for a number of years Operation had been suggested, but had been deferred On examination a relaxed condition of the sphincter muscle was found It is characteristic of syphilis of the spinal cord to find this muscle absolutely contracted and on examination of such a patient to find it flabby and relaxed This patient gave a four plus Wassermann, he was referred to Dr Fordyce, and improved under antisyphilitic treatment If there had been an operation, the condition would have been aggravated. In another case it was found that the gallbladder had been drained and the appendix removed, on examination it was found that the subject had tabes, and under antisyphilitic treatment his condition improved

---

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below

American Journal of Anatomy, Philadelphia

January XIX No 1 pp 1 148

1 Occurrence and Physiologic Significance of Fat in Muscle Fibers of Normal Myocardium and Atrioventricular System Interstitial Granules (Mitochondria) and Phospholipines in Heart Muscle H H. Bullard Pittsburgh
2 *Normal Mode of Secretion in Thyroid R. R Bensley Chicago
3 *Influence of Diet and Iodids on Hyperplasia of Thyroid of Opossums in Captivity R. R Bensley Chicago
4 Vascular Drainage of Endolymphatic Sac and Its Topographical Relation to Transverse Sinus in Human Embryo G L. Streeter Washington D C.
5 Problems of Human Dentition. L. Bolk Amsterdam

2 Normal Mode of Secretion in Thyroid.—Examination of sections of an experimental series and of a number of normal thyroid glands from animals killed as soon as obtained Bensley says reveals the presence in all, although in highly variable amounts in the individual members of the series, of a new secretion antecedent This substance is in the form of vacuoles occurring exclusively in the outer pole of the cell, which contain a dilute solution similar in its properties to the colloid of the follicular lumen differing from the latter only in density There are even in this substance clear vacuoles due to shrinkage in fixation, like those seen in the colloid of the lumen In two members of the experimental series, this substance was present in such amount that it filled quite half the cell In these cases the cell presents an appearance comparable to that of the secreting cells of an exocrine gland like the pancreas, with the exception that the hylogens are in dilute solution in fairly large vacuoles instead of in the form of granules, and they are in the basal end of the cell instead of the free end In other words these cells exhibit the ordinary picture of a secreting cell with stored secretion antecedents, but with reversed polarity Three possible interpretations of the presence of this material suggest themselves to Bensley first, that it is a pathologic product representing cytoplasmic degeneration, or imbibed serous fluid, or simple edema, second, that it is colloid in process of resorption by a transcellular route, third, that it is a true secretion antecedent representing material formed in the base of the cell for the purpose of direct transport into the vascular channels This last theory is favored by Bensley

3 Influence of Diet and Iodids on Hyperplasia of Thyroid—These experiments show that the spontaneous hyperplasia observed in the thyroid of the opossum under laboratory conditions can be produced and controlled by diet alone, and that given the conditions, dietary and otherwise, which produce an active hyperplasia iodin will not inhibit the reaction At all periods of the hyperplasia and to an extent which is proportional inversely to the rate of hyperplasia iodids will cause the storage of intrafollicular colloid The experiments also emphasize the necessity in studies on the reactions of the thyroid of controlling closely the conditions under which the animals are kept, and of reducing the gland so far as possible by diet and iodids to a normal base before the experiments are begun

American Journal of Roentgenology, Detroit

December 1915 II, Nos 11 and 12 pp 869 932

6 Progress of Roentgenology in Past Decade A L. Gray Richmond Va.
7 Physical Investigation Work in Progress on Tubes and Accessories W D Coolidge
8 Roentgen Ray Spectra A W Hull
9 Factors Governing Photographic Action of Roentgen Rays J S Shearer New York
10 Biologic Explanation of Roentgen Ray Effects. A Richards Austin Texas
11 Device for Use in Connection with Hydrogen Tubes J T Case, Battle Creek

Archives of Internal Medicine, Chicago

January XVII No 1 pp 1 180

12 *Origin and Status of So-Called 'Transitional' White Blood Cell F A Evans Baltimore.
13 *Adams Stokes Syndrome—Persistent Bradycardia Involving Both Auricles and Ventricles Remarkable Prolongation of As Vs Interval W S Thayer Baltimore.
14 *Typhoidin Quotient. Quantitative Studies of Cutaneous Test of Typhoid Immunity E S Kilgore, San Francisco
15 Splenic Pathology of Pernicious Anemia and Allied Conditions J P Schneider Minneapolis
16 *Blood Urea Determinations in Two Hundred and Eleven Cases. H Schwartz and C McGill Butte, Mont.
17 *Effect of Continuous Electric Light in Experimental Arthritis W E Simmonds and J J Moore Chicago
18 *Intraspinal Treatment of Syphilis of Central Nervous System According to Method of Swift and Ellis. R Dexter and C. L. Cummer Cleveland
19 Prothrombin and Antithrombin Factors in Coagulation of Blood G R Minot G P Denny Boston and D Davis Baltimore.
20 *Some Clinical, Physiologic and Chemical Observations on Ptomain Poisoning from Creamed' Codfish M A Blankenhorn G L. Harmon and P J Hanzlik, Cleveland
21 *Observations on Sino-Auricular Heart Block S A. Levine Boston
22 Serum Sickness in Series of Five Hundred Patients Treated with Diphtheria Antitoxin M. Sturtevant, New York.

12. Origin of So-Called Transitional Cell—Evans' research suggested to him that the so-called transitional cell is not an immature or degenerated form of any other cell type, but is an independent cell type in itself, that the productive center of the transitional cell is closely related to that of the polymorphonuclear system, but is independent of it, that the transitional is not an endothelial cell, bears no relation to the lymphocytes large or small, and is probably of myeloid origin, that the one distinct type of large mononuclear closely resembling the transitional should probably be included with it to form an independent cell type, but that if there is any difference in the age of the cells of oval or indented nuclei, as seems likely, the cell with the indented nucleus—the typical transitional—should be considered the younger

13 **Persistent Bradycardia Involving Both Auricles and Ventricles**—Thayer presents the history of a woman who for two years and a half has had occasional syncopal and eclamptic attacks with extreme bradycardia Between these periods the pulse is regular, averaging (in rate) but little over 30 to the minute Polygraphic and electrocardiographic study reveals a synchronous slowing of both auricles and ventricles with prolongation of the As-Vs interval to a period longer than has hitherto been reported In polygraphic tracings the *a-c* interval amounts to from 0 7 to 1 0 second, in electrocardiograms the P-R time is often over 0 7 second The history of syncopal and eclamptic attacks with great slowing and irregularity of the pulse, as well as the prolonged As-Vs interval observed Thayer believes justifies a diagnosis of disease of the auriculoventricular bundle The cause of the auricular bradycardia which would appear to depend on an essential anomaly of impulse formation, is not clear A second case of apparently essential sinus bradycardia is reported This subject is a seemingly healthy man now 35 years of age The heart rate for at least five years, has been between 30 and 40 when the patient is at rest There is no prolongation of the As-Vs interval Exercise, deep breathing, atropin have their usual effects on the heart's rhythm and rate, but proportionately to the initial heart rate Attacks of vertigo and nausea occurred five years ago but there is no evidence that these were associated with auriculoventricular dissociation The patient remains in apparently good health despite his persistent bradycardia

14 **Typhoidin Quotient**—The use of typhoidin, tuberculin and other quotients" in interpreting cutaneous diagnostic reactions is urged by Kilgore, for the reason that objectiveness is thus increased and quantitative analyses made possible In individual cases the test as here used has a high probable error and is therefore not conclusive It has a neutral significance when after twenty-four hours the typhoidin quotient is in the region of 1 40 to 1 50, that is, when the typhoidin spot is about one and one-half times the diameter of the control When the quotient is considerably above 1 50, immunity to typhoid is suggested When it is considerably below this value nonimmunity is suggested When applied by statistical methods to groups of cases, Kilgore says, it may, however, be capable of much more definite interpretation as a qualitative index of typhoid immunity, since the general averages in this series of cases as well as those previously reported by Gay and Force show well-marked average differences in reaction between the immune and nonimmune It is suggested, furthermore, that when applied in this way to sufficiently large groups of cases, the typhoidin quotient may prove useful as a quantitative index of typhoid immunity

16 **Determinations of Blood Urea**—In studying various pathologic conditions Schwartz and McGill have considered a blood urea above 0 250 gm per liter as abnormal Of Twenty-five cases of acute nephritis were observed these eighteen were toxic nephritis accompanying lobar pneumonia The urea averaged 0 578 gm per liter, thus showing a definite increase Only three cases showed a normal amount of urea All showed albumin and casts in the urine Twenty-two phthalein tests were made, sixteen showed decreased elimination Twelve cases which were clinically suspected of being nephritis, showed an average urea of 0 248 gm per liter, which is a normal value The phthalein excretion was normal on all the cases which were examined Of nineteen cases of mild chronic nephritis, five were parenchymatous and fourteen were interstitial nephritis The average blood urea was 0 288 gm per liter Five of the cases showed normal blood urea The phthalein excretion in this group was, with one exception, normal In sixteen cases of advanced chronic nephritis, the average blood urea was 0 444 gm per liter Thie cases showed normal values Two cases of albuminuric retinitis showed a normal area In one case of uremia the maximum area at the time the patient had uremic symptoms was 1 008 gm per liter, with but a trace of phthalein excreted The average blood urea in these cases of advanced chronic nephritis with cardiac decompensation was 0 523 gm per liter, which is higher than the same group of cases without cardiac decompensation, and also distinctly increased above normal value The blood pressure of all these patients was distinctly elevated The phthalein was just a trace in two cases, 15 per cent in another case

The authors found increased urea in cases of nephrolithiasis, pyelonephritis and pyonephrosis, cystitis and pyelitis The majority of cases of lobar pneumonia have a raised value Approximately one-half of the cases of syphilis show a distinct elevation In exophthalmic goiter there is an increase, and in myxedema, a decrease in blood urea In primary anemia, nephrolithiasis, pyelonephritis, pyonephrosis septicemia, streptococcic meningitis, Rocky Mountain spotted fever, pulmonary tuberculosis, diabetic coma, intestinal obstruction, malignancy, and common duct obstruction, there is a definite increase in most of the cases A slight elevation occurs in valvular heart lesions, myocarditis, secondary anemia, urticaria, fractured skull, cerebral hemorrhage, concussion, bone cyst, traumatic pleurisy, arteriosclerosis and chronic arthritis No changes were found in psoriasis, pityriasis rosea, epilepsy, meningococcic meningitis, diabetes and functional neurosis The urea content of body fluids in the majority of cases, agrees with the blood urea The blood pressure was taken in 178 cases There is no relation between blood pressure and the amount of blood urea The results of phthalein excretion in ninety-six cases agree with the observation of others, who find in most cases the percentage of phthalein excreted is diminished along with increase in blood urea

17 **Effect of Electric Light in Experimental Arthritis**—The production of experimental arthritis in rabbits was either prevented by Simmonds and Moore, or was much milder in degree, in animals treated with the continuous incandescent electric light than in the controls not treated Rabbits treated with the incandescent electric light after developing acute experimental arthritis recovered more rapidly than the control animals

18 **Intraspinal Treatment of Syphilis of Central Nervous System**—Dexter and Cummer report on fifty-nine intraspinal injections of autosalvarsanized serum given in ten cases Following these injections they have seen no symptoms, temporary or permanent, which could in any way be attributed to injury to the central nervous system They have seen no deaths, paralysis or bladder disturbances Patients who have had reactions of pain following the treatment have shown greater and more rapid improvement than those who had no discomfort from the procedure The results in six of these ten cases has been a symptomatic improvement so emphatic that the patient's economic efficiency has been restored

20 **Ptomain Poisoning from "Creamed" Codfish**—The clinical symptoms observed in a large number of patients attacked with ptomain poisoning from "creamed" salted cod fish were epigastric distress, nausea, vomiting, intestinal colic and diarrhea Complete recovery occurred in from twelve to twenty-four hours, in a part of the individuals spontaneously, and in another part following gastric lavage Bacteriologic examination of the "creamed" fish showed the presence of the *Bacillus coli communior*, and other saprophytes and some staphylococci The gastro-intestinal disturbances are not attributed to infection by the organisms in the fish material Extracts of the "creamed" fish gave practically the same physiologic reactions as the same brand of salted codfish which was previously allowed to putrefy and then was prepared in the same manner as the food served to the patients The physiologic effects consisted of a marked stimulation of intestinal and uterine peristalsis with surviving organs, and a fall of blood pressure with gradual recovery The purified active extract of the "creamed" putrefied salted codfish contained some physiologically active base, whose chemical reactions resemble

those of the group of diamins to which putrescin, cadaverin and histamin belong

21 **Sino-Auricular Heart Block**—Four cases are described by Levine showing pauses of the heart's action which were equal in length to multiples of the normal heart cycle of the respective individual There was no evidence of auricular activity during the pauses, which points to a blocking of the impulses above the auricles, that is at the S-A node The first case exhibited bradycardia on exertion The ventricular rate fell to 43 as a result of acceleration of the sinus rate Tracings taken over a period of five months showed that block depended on a slight sinus arrhythmia Whenever the sinus rate increased beyond a certain point, the node failed to conduct the impulse to the auricles The three other cases showed S-A block only after digitalis had been taken after it was withdrawn the block was no longer observed The second case described showed frequent pauses in which one, two, three or four heart beats were blocked At one time there was observed in the electrocardiogram a condition of total sino auricular block for many seconds while the ventricles were beating at their slow idioventricular rhythm

Boston Medical and Surgical Journal

January 20 CLXXIV No 3 pp 73 108

23 *Treatment of Nephritis C Phipps Boston
24 Injured Employee and Workmen s Compensation Law Results of Impartial Examinations F D Donoghue, Boston
25 Outline for Management of Heart Cases from Outpatient Department Standpoint. M H Wentworth Concord
26 Development of Gold Sol Paretic Reaction as Compared with Cerebrospinal Syphilitic' Type. H. C Solomon and E S Welles Boston
27 Nonfatal Fracture of Axis F W O Brien Boston
28 Vacuum Flushing Leech H S White Orwell Ontario

23 **Treatment of Nephritis**—Because the kidney is one of the excretory organs of the body Phipps says, our first thought in disease is usually to relieve it by transferring as much of its work as possible to other organs of elimination, such as the bowels skin, etc In acute infectious cases one may employ such drugs as hexamethylenamin and salol for the purpose of disinfecting the urinary tract, and in the so-called idiopathic cases (usually due to the *Bacillus coli communis*) some benefit may be derived thereby Surgical measures such as capsule-splitting and decapsulation are of demonstrated value in selected cases Bleeding and lumbar puncture are methods of symptomatic treatment particularly in uremia but they are of use only in the sthenic form in which the systolic blood pressure is as high as 200 mm In the asthenic type of uremia hot packs hot enemas and pituitary extract are of chief value Increased elimination through the bowels is of the greatest value The second method of affording relief to the diseased kidney is to make elimination as easy as possible largely by regulating the diet However, Phipps says, any rigorous system of diet may (but should not be) so strict or continued so long that it may be distinctly harmful to the patient, hence more freedom in the allowance of protein than is recommended in the textbook' nephritic diet may be of apparently great advantage in the individual case Thyroid extract has perhaps a great value in the treatment of nephritis If given carefully it is safe.

Bulletin of Johns Hopkins Hospital, Baltimore

January XXVII No 299 pp 1 28

29 *Gaucher s Disease Report of Two Cases in Infants J H M Knox Jr H R. Wahl and H C Schmeisser Baltimore
30 *Pleural Eosinophilia Report of Case S Bayne Jones Baltimore
31 Colorimetric Method for Determination of Hydrogen Ion Concentration of Biologic Fluids S H Hurwitz K F Meyer and Z Ostenberg San Francisco
32 *Hodgkin s Disease of Intestines Report of Case. L. M Warfield and H T Kristjanson Milwaukee Wis

29 **Gaucher's Disease**—The authors present the cases of two infants, sisters who did not thrive from birth and died, one at 11 months the other at 15 months of age from gradually increasing weakness The most striking clinical feature was the great enlargement of the spleen and liver The blood picture was that of a moderate anemia The leukocytes were rarely increased, and for the most part were markedly reduced in number The skin in both cases had a peculiar yellowish-brown hue, more marked on the face and exposed surfaces In one case the diagnosis was confirmed during life by the examination of an excised lymph gland Microscopically, in both cases nearly all the organs were found to contain large pale, granular or finely vacuolated cells, in which there was a peculiar refractive substance having the chemical and staining properties of lipoid material These cells are apparently identical with those described by Gaucher, and later by a number of observers in the condition called "Gaucher's disease' These two cases and that of Niemann are the only ones in which the disease has been reported in infancy The observation of cherry-red spots in the maculae of one of the patients in view of the presence of similar cells in the nervous tissues of cases of amaurotic family idiocy, lends additional interest and suggests the possibility that the essential degeneration in the latter condition may be of a similar character

30 **Pleural Eosinophilia**—Bayne-Jones presents the account of a case of postpneumonic pleural effusion which contained 45 per cent of eosinophils The report of eight similar cases gathered from the literature are summarized Many of the eosinophil cells of this exudate were of the mononuclear type The patient s blood exhibited a slight eosinophilia, but did not contain any mononuclear eosinophils The morphology of these pleural eosinophils suggests strongly that they have a local origin outside of the bone-marrow A review of the possible etiologic factors in pleural eosinophilia the author says seems favorable to the hypothesis of Schwarz that protein split products in an exudate undergoing absorption may constitute the eosinotactic substance that produces both the general eosinophilia and the local eosinophilia

32 **Hodgkin's Disease of Intestines**—A Bulgarian, aged 27, common laborer by occupation complained that he was "sick in his stomach' He had never been ill smoked moderately and denied venereal disease For about eight months he had had intermittent pain in the stomach after eating, which was not severe enough at first to force him to stop work The pain however had gradually increased he had vomited occasionally after meals had become weak, and lost strength and weight so that he had been obliged to stop work in January Since the onset of this trouble, he had had almost constant diarrhea There had also been an intermittent cough He was only fairly well nourished There were a few mucous rales at the lung apices and slight impairment of the percussion note at both bases The abdomen showed a curious distention below the umbilicus, as with gas, with apparent constriction just below the costal margin" There was no increase in liver dulness There were no masses palpable The most probable diagnosis seemed to be pulmonary tuberculosis with a dry peritoneal tuberculosis Some fluid was removed from the right pleural cavity The leukocytes were 7 000 Differential count (Hastings stain) showed polymorphonuclears 60 per cent , mat and immat lymp 34 per cent , trans (end) 6 per cent bas 1 per cent There was no occult blood in the stools Several examinations for tubercle bacilli in the sputum were negative The urine was normal The patient gradually grew weaker and died rather suddenly, with obscure abdominal symptoms subnormal temperature and only slightly increased pulse rate about six weeks later Anatomic diagnosis acute general peritonitis with perforation of jejunum diffuse and nodular thickening of intestines enlargement of mesenteric glands acute splenic tumor slight pleural effusion (right side) edema of lungs The microscopic picture of the intestines was that of Hodgkin s disease The authors suggest that the portal of entry of the infection probably was the intestine

Bulletin of Medical and Chirurgical Faculty of Maryland, Baltimore

January I III No 7 pp 101 128

33 Management of Patients with Chronic Renal Disease. T C Janeway Baltimore

Colorado Medicine, Denver

January, XIII No 1, pp 1 34

34 *Heart Disease and Pulmonary Tuberculosis as Contraindications to Surgery H G Wetherill, Denver
35 Use of Wire Tourniquet in Partial Thyroidectomy L. Freeman, Denver
36 Pneumococcus Sore Throat in Children F P Gengenbach, Denver
37 Etiology and Diagnosis of Endometritis C B Ingraham, Denver
38 Treatment of Endometritis C Powell, Denver
39 Ethical Medicine M R Fox, Sterling

34 **Heart Disease and Tuberculosis**—Wetherill's experience with pulmonary and heart substandard risks has been uniformly favorable when operations have been necessary but he advises that extraordinary precautions must be employed to safeguard such patients from danger, and that the time of the operation should be as brief as possible Wetherill never refused such an invalid a necessary surgical operation because he happened to have a heart lesion or even advanced pulmonary tuberculosis He believes that such operations on such patients may be done with greater safety in a high and dry climate than in the humid and torrid regions Certainly their recovery is more prompt and complete under Colorado atmospheric conditions than at sea level He has observed many times the most astonishing improvement in the lung and heart lesions of such patients, and in their general well being, when, for example, the operation may have been done for the elimination of a local focus of infection from which the pulmonary or heart complications may have been maintained and perpetuated or may have had their origin He urges that the surgeon should have in such an emergency the advice and counsel of a capable and expert internist to advise such preparatory regime and medicinal treatment as the patient requires If time permits, absolute rest in bed previous to operation, with such treatment as may bring about the highest attainable measure of cardiac compensation and pulmonary rest, is indispensable At this stage, as well as during the period of convalescence, the patient should be under the closest scrutiny of the internist, who should have a free hand and the largest liberty in directing any treatment that he may regard as essential to the welfare of the patient

Georgia Medical Association Journal, Augusta

January V No 9 pp 193 225

40 Physician, Yesterday, Today and Tomorrow W B Hardman, Commerce
41 Chronic Tonsillitis Adenoids S R Roberts, Atlanta
42 Treatment of Chronic Interstitial Nephritis T D Coleman Augusta
43 Some Phases of Nephroptosis in Women W F Shallenberger, Atlanta
44 Pellagra and Acidosis H F Harris, Atlanta

Illinois Medical Journal, Chicago

January XXIX No 1, pp 1 80

45 Clinical Symptoms and Physical Signs in Early Diagnosis of Pulmonary Tuberculosis F M Pottenger, Monrovia, Calif
46 Intravenous Use of Typhoid Vaccine and Foreign Protein in Treatment of Typhoid J L Miller, Chicago
47 Dementia Praecox Studies. B Holmes and J Retinger, Chicago
48 Cooperative Method of Diagnosis C Beck, Chicago
49 Some New and Nonofficial Remedies B Fantus, Chicago
50 Tonsil Technic R H Woods, La Salle
51 Value of Roentgen Ray Examination in Pulmonary Disease E Blaine, Chicago
52 Focal Infections of Accessory Nasal Sinuses. G H Mundt, Chicago
53 Treatment of Tetanus L J Quillin, Streator
54 Mouth Hygiene and Its Relation to Systematic Diseases J W Fulenwider, Collinsville
55 Intestinal Autointoxication L C Diddy, Piper City
56 Newer Methods of Cesarean Section J B DeLee, Chicago
57 Longevity in Its Relation to Sex or Why Fewer Men Than Women Attain Old Age A H Burr, Chicago
58 Postgraduate Work at Home A J Roberts, Ottawa

Journal-Lancet, Minneapolis

January 15 XXXVI No 2, pp 31 60

59 Volvulus R E Weible, Fargo, N D
60 Relaxed Pelvic Outlet R L Murdy, Aberdeen, S D
61 Value of Vital Statistics A D Hard, Marshall
62 Streptococcal Pharyngitis J D Lewis, Minneapolis
63 Convergence Insufficiency and Divergence Excess L J Cona, Minneapolis
64 Some Points Regarding Astigmatism S E Kerrick Minneapolis.
65 Interpretation of Wassermann Reaction G M Olson, Minneapolis
66 *Snuff Poisoning, Report of Cases E L Crispin, Rochester

66 **Snuff Poisoning**—Twenty-five cases of snuff poisoning have been indexed in the Mayo Clinic, none prior to 1914 The duration of the habit in some of these extends over a number of years Crispin says that the use of "Copenhagen" snuff produces most deleterious results The users of excessive amounts suffer from chronic headaches, indigestion irritable heart action, increased respiration on exertion, and impaired mentality to the point of degeneracy Delusions and hallucinations are not uncommon in the worst cases A number of cases of marked psychosis have been observed in the State Hospital at Rochester, believed to be due to the excessive use of this form of snuff The chronic snuff habitue does not consult the physician to be cured of the habit, but because of impaired organic function The scarring and ulceration of the gingival and buccal mucous membranes with the long standing chronic irritation, make these ulcerations in the snuff chewers probable sources of future trouble in which malignancy may be considered Crispin expresses the hope that more general recognition and publicity of the serious effects of the use of snuff will result in antilegislation to drive it from all states in which it has a foothold, and also that publicity will serve as a warning to other states not yet similarly affected

Journal of Laboratory and Clinical Medicine, St Louis

December 1915 I No 3, pp 155 210

67 *Gumma of Pituitary Associated with Lesions in Spinal Cord which May Represent Early Lesions of Syringomyelia P G Wooley Cincinnati
68 *Some Features of Purin Metabolism H G Wells, Chicago
69 Ferment Antiferment Balance of Serums J W Jobling, W Petersen and A. A. Eggstein, Nashville, Tenn
70 *Experimental and Clinical Studies on Mental Defectives A. W Peters and C D Blackburn, Philadelphia
71 *Method of Sterilizing Sputum Before Examination D M Griswold, Detroit
72 Slide Holder and Protector for G S and E Warming Stage C R Eckler, Indianapolis
73 Hydrogen Ion Acidity T H Kelly, Cincinnati

January, No 4 pp 211 282

74 Growth L B Mendel and T B Osborne, New Haven, Conn
75 *General Pathology of Pellagra with Special Reference to Findings in Thyroid and Suprarenals P F Morse, Detroit
76 Antagonistic Action of Vagus and Sympathetic Divisions of Autonomic Nervous System in Pulmonary Tuberculosis F M Pottenger, Monrovia, Calif
77 Etiology and Laboratory Diagnosis of Smallpox and Chickenpox J N Force, Berkeley, Calif
78 Methods for Determination of Glucose in Blood R S Morris, Cincinnati
79 Coagulation of Blood E Stoldt, Detroit, and V C Vaughan, Ann Arbor

67 **Gumma of Pituitary**—A case is reported by Wooley in which there are certain lesions in the pituitary and in the spinal cord, which, it is suggested, have a common etiology The lesion in the pituitary is definitely syphilitic Those in the cord are possibly syphilitic. The cord lesions seem to suggest that they represent an early stage of syringomyelia

68 **Some Features of Purin Metabolism.**—The case of uric acid in human metabolism according to Wells stands at present as follows (1) There is conclusive evidence that the human organism does not oxidize uric acid formed in metabolism into allantoin, as all other mammals except the anthropoids seem to do (2) There is no conclusive evidence that man destroys uric acid by any other method although it has not yet been positively established that he may not do so (3) There is perhaps more reason to suspect that part of the purins of nucleic acid may be destroyed without passing through the stage of uric acid, but there is no direct evidence whatever that such a method of purin katabolism does exist (4) It is highly probable, in consideration of what seems to be the best available evidence, that most of the purin of human food and practically all the purin from cell metabolism is converted into uric acid and excreted as such Some of the food purins may be destroyed by bacteria in the intestines

70 Studies on Mental Defectives—The pathology of mental defectives including especially the feebleminded is based by Peters on the principle that their condition, both physiopathologic and psychopathologic, is due to physical abnormalities of growth and development which affect not only the neural, but also other systems of organs by reason of intimate hormonal or neural correlation or both In the majority of cases these begin with the parentage, are continued and magnified during the period of gestation, and are deeply impressed in the physical constitution of the individual, so that abnormal growth and development characterizes such individual not only during gestation but continuously after birth In acquired defect the incidence of the deviation from the normal occurs at a later period in the cycle of development An outline of a plan, based on the principle of growth-development, for the examination, diagnosis and further study of mental defectives, is presented This outline places emphasis on the physiopathologic factors as well as on the psychopathologic and the facts thus ascertained constitute the logical basis for further intensive study of the defective individual by physiologic and biochemic methods

71 Method of Sterilizing Sputum Before Examination—It has been the practice of the laboratory of the Detroit Board of Health to autoclave all sputum bottles after the contents have been examined then send them to the dump It was desired to study the effect of this treatment on the sputum In a series of 200 sputums examined first in the usual way, and then after autoclaving the following results were obtained (1) All sputums found positive in the usual way were found positive after autoclaving (2) Among the sputums found negative (150) in the usual way, three showed tubercle bacilli after autoclaving The staining characteristic of the tubercle bacillus is not altered

75 Pathology of Pellagra—Morse reports in detail the postmortem findings in a case of pellagra Summary Simple or brown atrophy of the heart, liver, spleen, lungs intestinal muscles (?) and kidneys Degenerations and brownish pigmentation of the posterior root ganglia (and other groups of nerve cells) Active ulcerative proctitis and chronic glossitis of marked degree. Hyperkeratosis and sclerosis of the skin with areas of round-celled infiltration Chronic productive interstitial thyroiditis with compensatory reaction on the part of the thyroid follicles Small areas of round-celled infiltration in the thyroid, suprarenal, liver, lung, bladder tongue, rectum and skin The changes found in the thyroid and suprarenal are unusual ones thus lending support to the tendency to consider them of importance in the production of the clinical state presented by the patient Morse believes that the nervous lesions hitherto described and partially confirmed by his findings are wholly of toxic or nutritional origin Many of the lesions are postmortem changes and other artefacts, along with secondary changes which are common in many other conditions He believes that reports of degenerations based on the appearance of granules and other slight changes in nerve-cells have to be interpreted with extreme caution inasmuch as so much depends on the functional state of the cells at the time of death postmortem change, fixative, method of preparation, etc One of the safest criteria for the establishment of the fact of nerve cell degeneration is fat, none of which was demonstrable in Morse's case

Kansas Medical Society Journal, Topeka

January XVI No 1 pp 1 32

80 Methods and Value of Blood Transfusion W M Mills Topeka
81 Pyloric Obstruction in Infancy G L McGonigal, Kansas City
82 Home Treatment of Tuberculosis W R. Pennington, Ottawa
83 Typhoid N C Speer Osawatomie.

Medical Record, New York

January 15 LXXXIX No 3 pp 89 134

84 Removal of Diseased Tonsils by Method Minimizing Hemorrhage. A. P Voislawsky New York. History of Tonsillotomy D B Delavan New York.
85 *Fractures of Elbow J Grossman New York.
86 Case of Trichiniasis M G Wohl Omaha
87 Flat Foot, Its Relation to Neuritis and Its Treatment W Martin, Atlantic City, N J
88 Cirsoid Aneurysm Treated by Direct Application of Boiling Water J A Wyeth New York
89 Treatment of Dementia Praecox with Sodium Nucleinate Report of Cases C F Read, Peoria Ill
90 Syphilis Inexplicable. W S Reynolds, New York
91 Diagnostic Value of Russo Reaction M Kahn, New York and L. Wechsler, Pittsburgh

85 Fractures of Elbow—Grossman's paper is based on the study of fifty cases of fracture of the elbow, which were treated by the acute flexion position and in which he succeded in obtaining good functionating limbs in some and a cure with normal functionating limbs in the majority The cases were divided as follows twenty-four of internal condyle, fourteen of external condyle, eight of supracondyloid and four of olecranon

Missouri State Medical Association Journal, St Louis

January XIII No 1 pp 1 50

92 Symptomatology and Treatment of Alopecia Areata R L Sutton, Kansas City
93 Multiple Brain Abscesses of Otitic Origin E. L. Myers St Louis
94 Early Management of Anterior Poliomyelitis C B Francisco Kansas City
95 Deformities of Foot E L. Cooley St Louis
96 Spastic Constipation T S Fleming Moberly
97 Operative Treatment of Squint R J Curdy, Kansas City
98 Why Remove Tonsil? I D Kelley Jr St Louis
99 Ametropia in Schoolchildren E L Russell Kansas City
100 Penetrating Wounds of Abdomen W Smith, Springfield
101 Etiologic Factors in Vomiting of Pregnancy and Measures to Relieve It J D Seba Bland
102 Injury with Extravasation of Blood in Pericardium W N Yates Fayetteville Ark

New Jersey Medical Society Journal, Orange

January XIII No 1 pp 1 52

103 Institutional Care of Insane B D Evans Morris Plains
104 Borderland of Psychoses C C Beling Newark
105 Diagnosis of Neurasthenia T P Prout Summit
106 Effects of Syphilis on Central Nervous System H A Cotton Trenton
107 Conservation of Infant Life E A. Ayres, Branchville

New York Medical Journal

January 15 CIII No 3 pp 97 144

108 Increasing Mortality in United States from Diseases of Heart Blood Vessels and Kidneys E L. Fisk New York.
109 Remote Effects of Synchronous Palsy of Peripheral Branches of Facial and Trifacial Nerves. S H Brown Philadelphia
110 Diet in Chronic Heart Disease. R Abrahams New York
111 Diagnostic Value of Records of Breathing and of Speech O Glogau New York
112 Percussion Technic and Theory B A Fedde New York.
113 Spinal Anesthesia with Stovain in Genito Urinary Surgery J S Read New York
114 Urinary Disturbances in Male C Martin St Louis
115 Mother's Milk for Mother's Baby W W Riha Bayonne, N J
116 Discharging Mastoid Sinuses. A. N Schiller, New York.

January 22 No 4 pp 145 192

117 Common Affections of Eye. S D Risley Philadelphia.
118 Chronic Tonsillitis L. Fischer New York
119 Dermatitis Factitia H K. Gaskill, Philadelphia
120 Problems of Syphilitic Reinfection Report of Case. M B Parounagian New York
121 Grippe and Overheating W Brady Elmira
122 Congenital Unusually Large Scrotal Hernia W B Jennings, Scarsdale
123 Allen Treatment in Diabetes Mellitus Report of Five Cases S H Paley New York
124 Treatment of Obesity J Gutman New York
125 Metabolism of Tissue Autolysis. B Oettinger Long Beach Calif

Northwest Medicine, Seattle, Wash

January XV No 1 pp 1 36

126 Rocky Mountain Spotted Fever L. Paine Washington D C
127 Hypothyroidism J R Brown Tacoma
128 Hyperthyroidism H P Marshall Spokane.
129 Use of Electricity in Various Forms of Goiter E. Myers Portland Ore
130 Prevalent Types of Goiter in Western Washington E O Jones Seattle
131 Organotherapy in Relation to Practice of Medicine. F R Starkey Philadelphia.
132 Plastic Operation on Ovary Report of Case of Pregnancy Following Such Operation. H J Whitacre, Tacoma

Paris Médical

Dec 25, 1915, V, No 52, pp 557 572

43 *Direct Sunlight as Aid in Treatment of Wounds in War (Heliotherapie des blessures de guerre) Grangee
44 Small Epidemic of Paratyphoid B Fevers Simulating Epidemic Meningitis G Laroche and Lecaplain

43 **Heliotherapy for the Wounded**—Grangee gives illustrations of his improvised service for heliotherapy of the wounded, and relates that he has been much impressed with the more rapid healing of the wounds exposed to the direct sunlight The scars are less adherent, more supple, and are never painful, while callus develops normally and does not become exuberant Repair and elimination of sequesters proceeded more regularly and spontaneously He found that severe wounds responded with fever and inflammation when exposed to the sunlight early, and he was forced to allow the organism a certain interval for recuperation before commencing the heliotherapy After two or three weeks or a month even the most destructive wounds showed benefit from the exposures, if there was still fever at the time, the temperature dropped to normal By protecting the wound against the air, the heliotherapy can be applied to advantage even from the first The deodorizing effect of exposure to the sunlight is direct and immediate Suppuration is augmented at first as a rule and then grows less He has never had but one refractory ulceration of the stump of the foot, this was after amputation for dry gangrene consecutive to freezing An umbrella is sufficient protection for the head at need He exposes the whole of the wounded area and gradually increases from half an hour to three or four hours a day

Presse Médicale, Paris

Dec 30 1915, XXIII No 64, pp 521 528

45 *Isolation and Psychotherapy in Treatment of Functional Disturbances of the Nervous System among the Troops J Dejerine and E Gauckler
46 *Bridge Plaster Casts for Compound Fractures in War (Iconographie des appareils platres pour fractures compliquees par projectiles de guerre) M Senechal

45 **Functional Nervous and Mental Disturbances** —Dejerine and Gauckler warn of the necessity for guarding against the development of functional disturbances in the wounded either from inertia over-long immobilization or simulation Those with functional disturbances should not be sent back to the home zone They emphasize the importance of recognizing the functional nature from the start and giving proper treatment by psychotherapy, and graduated motor reeducation, under strict discipline

46 **Bridge Casts**—The illustrations show that the cast is applied to leave the lesion amply exposed, with one, two or three plaster or metal bridges arching over it like the handle of a market basket Senechal has treated fifteen severely wounded men by applying these casts to immobilize the region before he attempted even to examine it This gave the men time to recuperate from shock and allow the necessary operations to be done at leisure Of course he refers to not badly infected wounds, the rectal temperature not over 39 C (102 2 F) His service is at Duvauchel-Amiens and the men reach there very soon after they are wounded When given an anesthetic during the excitement still left from the battle, the period of agitation under the chloroform or ether was always extremely violent, and he imagined that this helped to spread infection By immobilizing first and then giving the anesthetic all this is avoided, and he thinks it realizes great progress

Revue de Gynécologie et de Chir Abd., Paris

June, 1914, XXII, No 6, pp 465 576 Last indexed January 15, p 227

47 *Wedge Excision of Fundus of Uterus (L'excision transversale cunéiforme du fond de l'uterus d'après O Beuttner) L Aubert
48 Hydrosalpinx and Hydrorrhea J Mouchotte
49 *Vulvar Pruritus Eyraud Dechaux

47 **Wedge Excision of Fundus of Uterus**—Aubert remarks that diseased ovaries and tubes are encountered mostly in young women, very few of his patients in this category were over 30 The gonococcus generally invades both sides, but when some portion of the ovary is still sound he tries to retain this and avoid unnecessarily radical measures, thus preserving the correlation between the uterus and the ovary, the internal secretion of the ovary and menstruation He accomplishes this by a technic which he has applied with great success in thirty cases Through a laparotomy incision he resects a broad transverse wedge in the fundus of the uterus, and sutures the wound in the uterus Then he resects the ovaries, saving as much sound tissue as possible The peritoneum is drawn down to roof over the site of the operation, which is concluded with *parietal sero-serosa hysteropexy* The broad wedge cut out aims to get rid of and cure the metritis which almost invariably accompanies disease in the adnexa By this excision of the cornua no chance is left for painful exudation in this region or suppuration in the intra-uterine end of the fallopian tube Menstruation continued regular in all the patients, and the uterus is held in movable anteflexion The various steps of the operation are shown in illustrations, as also some of the specimens removed

49 **Vulvar Pruritus**—Dechaux devotes over fifty pages to this study of vulvar pruritus When severe and persisting, it is liable to breed recluses, and suicides from this cause are known Neurasthenia may develop and the entire organism suffer The first step in treatment is to exclude all possible causes An inherited predisposition to nervous affections may be evident There may be an accumulation of causes and the memory of the cells facilitates return of the pruritus She calls this the "prurigenous mnemodermia" An attack of vulvar pruritus accompanying some genital affection is liable to return later, even without any local factor to invite it With a constitutional predisposition to pruritus it generally locates at points of lessened resistance. Among the causes that must be sought are vermin — they are liable to get into the cleanest families — medication, local or general, that may have started or is maintaining the pruritus In one distressing case of vulvar pruritus it was traced to vaginal douches with boiled water containing merely a very little tincture of eucalyptus and menthol Other drugs known to have brought on vulvar pruritus in local applications are salol, phenol, mercuric chlorid, and merely too hot and too often repeated water douches, perfumed soaps toilet waters, etc Still another and quite frequent cause is the oxyuris With this there is usually associated an pruritus In one of Dechaud's cases in this category t attacks of pruritus occurred mornings, in six others of whic she knows only two occurred at evening or night The eggs of the oxyuris may be deposited on the mucosa or skin a cause pruritus, five instances of this are cited The lesions resembled those of a secondarily infected eczema, and only a casual microscopic examination revealed the helminths' ova Thrush has also been observed as a cause of pruritus in young infants and debilitated elderly women, and in a few pregnant women A polyp in the urethra, urethritis, calculi in the bladder, herpes, zona, inflammatory processes in the vulva, vagina or uterus or fibromas are also liable to induce pruritus, as likewise syphilis, diabetes and other constitutional diseases She noted pruritus in about 5 per cent of her cases of gonorrhea in women, it always subsided as the gonorrhea healed In four such cases the secretions caused local pruritus also in the husband

The vulvar pruritus in pregnancy usually disappears after delivery The women subject to vulvar pruritus at the menopause may be of the gouty temperament or there may be local changes in the vagina setting up the pruritus or nervous disturbances After exclusion of all other causes, there is left a group of cases with essential pruritus It is distinguished by its intensity and tenacity Tentative organotherapy is justified here, trying ovarian, thyroid and pituitary treatment Vulvar pruritus thus requires general treatment to relieve constitutional disease, to reduce toxemia and reenforce the resisting powers in all ways, studying the inherited predisposition, the environment, the food, the general hygiene and traumatism Among the measures that may be required are change of scene, and abstention from coffee, tea, chocolate, alcohol, beer, sausages, veal, fish and shellfish, cheese, tomatoes, spices, strawberries and gooseberries, cabbage and cauliflower Hygiene of the digestive tract ranks first in all treatment of pruritus The teeth should be put in order, a decayed tooth may keep up a pruritus started by some other cause An instructive case of this kind is related The excitability of the nervous system should be reduced, and outdoor life enforced Valerian, arsenic and calcium may aid, but hydrotherapy is usually more effectual For local relief of the pruritus Dechaux has found most effectual a pad of absorbent cotton dipped in boiling water containing, or not, three or four tablespoonfuls of good vinegar to the liter It is applied to the vulva as hot as the hand can bear it, dipping it anew in the water several times in the course of three or four minutes The idea is to sop the vulva not to rub it Then the vulva is dusted with talcum powder The relief is immediate but only transient as a rule In only one instance the hot applications failed to relieve and cold water proved to act better The hot air jet, electricity, radiotherapy and hydrotherapy aid in some cases and Dechaux reports relief in others from a fine jet of hot water played on the vulva from a height of 20 or 25 cm She gives a long list of lotions that have proved useful in different cases, including camphorated brandy, chloroform water, potassium bromid (25 gm to the liter), morphin, ichthyol (20 gm to the liter of water), and naphthol (15 or 20 gm to the liter of water) Besides these, a trial might be made with lotions made from a decoction of coca leaves, tobacco (five or six large leaves per 1,000 gm water), belladonna, a 2 1000 solution of potassium cyanid, or 5 1,000 copper sulphate. Mercuric chlorid, phenol and chloral have been recommended but have been known to irritate and induce eruptions Psychic treatment is generally an important adjuvant, and in absolutely rebellious cases linear scarifications or superficial cauterization aim to destroy the nerve terminations keeping up the pruritus She tried autoserotherapy in one case but it failed Excision of vulvar leukoplasia not only wards off cancerous degeneration but cures the pruritus accompanying it. The defect heals readily and rapidly but recurrence of the pruritus has been known after resection of the mucosa Resection of the nerves in the region might be considered when the pruritus seems to be a kind of neuralgia In conclusion she cites Walthard's two cases in which psychotherapy alone cured the patients after failure of everything else. The pruritus was evidently purely functional in these cases

Policlinico, Rome

Dec 12 1915 XXII No 50 pp 1669 1700

50 Technic for Administration of Quinin in Malaria. (La chinina e la cura della infezione malarica) Ciuffini
51 *Phenol in Treatment of Tetanus (La cura del tetano con le iniezioni di acido fenico Metodo del Prof Baccelli) S Niero
52 *Cure of Tuberculous Lesion in Knee under Iodin (Di un grave caso di artrosinovite tubercolare, trattato con le iniezioni iodo iodurate alla Durante) G C Rovatti.

December 19 No 51 pp 1701 1732

53 Bier s Technic for Osteoplastic Amputation of the Leg G Serafini
54 Steam Bath in Treatment of Frozen Foot (La cura dei congelamenti mediante il bagno a vapore.) A. D Elia.
55 Potassium Bitartrate plus Boric Acid for Disinfection of Wounds (I vecchi antisettici nella odierna chirurgia di guerra) A. Cossu
56 Medical Maladies (Le malattie mediche.) L. Verney

51 **Phenol in Treatment of Tetanus**—The incubation in three cases was from ten to nineteen days and these patients all recovered under the injections of 2 per cent. phenol by Baccelli's technic. The fourth was a small child who developed tetanus two days after an accident and died within forty hours

52 **Tuberculous Knee Lesion Heals under Iodin.**—Rovatti applied Durante s iodo-iodid technic in the knee case described as he had been so gratified by the success of this treatment in tuberculous glands and tuberculous peritonitis The patient was a youth of 17 of a tuberculous family, both parents and two brothers having succumbed to tuberculosis of the lungs or meninges The lad was a hunchback and the knee trouble was of two years' standing After evacuating the focus Rovatti injected a mixture of 1 gm metallic iodin 3 gm potassium iodid, 2.5 gm. guaiacol and 50 gm. neutral glycerin This was the formula for the injections They were given daily and by the end of the fourth month the cure was complete and permanent

Riforma Medica, Naples

Dec 4 1915 XXXI No 49 pp 1345 1372

57 Tartar Emetic in Leishmaniosis in Children (La cura specifica della leishmaniosi nei bambini) R Jemma.
58 Electrotherapy for the Wounded in War (I contributi della elettricita medica nella traumatologia di guerra) M Bertolotti
59 *Occult Bleeding in Differential Diagnosis (Sulla ricerca chimica delle piccole traccie di sangue in semejologia.) C Salvini

December 11, No 50, pp 1373 1400

60 *Treatment of Acute Meningitis by Arresting Reflex Action (Nuovo contributo clinico alla teoria del l inibizione infiammatoria nella meningite acuta) T Silvestri
61 The Wassermann and the Landau Reactions in Syphilis (Reazione di Wassermann e reazione dei sieri sifilitici col reattivo iodato di W Landau) C Piazza

December 18 No 51 pp 1401 1428

62 Pharmacologic* Study of Iodo Albumin (Ricerche farmacologiche sulla protijodina) V Susanna
63 Vaccination against Paratyphoid (Sulla opportunita di estendere la vaccinazione delle nostre truppe anche contro i paratifi A e B) U Gasperini

59 **Occult Bleeding**—Salvini has been investigating simultaneously the various technics for detection of invisible blood in the stomach content or stools The benzidin technic and Ganassini's eosin reaction gave the clearest responses, and this promptly, while they are sufficiently sensitive (in proportions down to 1 per 15 000) for all practical purposes He warns that only the findings in the first thirty minutes are reliable In Ganassini's method, 0 5 c c. of crystallized eosin are dissolved in 100 c c. absolute alcohol. In another vessel are dissolved 2 5 c.c potassium hydrate dissolved in alcohol with 2 c c distilled water Then in a third vessel all the potash solution is mixed with 10 c c. of the eosin solution and the whole kept in boiling water for eight or ten minutes It is then cooled and a drop or two of alcohol are added to replace what has been lost by evaporation When ready to use, 1 c c. of 10 per cent hydrogen dioxid is added to 5 c c of the reagent and the fluid to be examined is dropped slowly into the mixture. With a positive reaction, the blue tint veers to yellow or orange, with a greenish or yellowish fluorescence The reagent must be kept in a cool place and sheltered from the light The hematin acts as a catalase, fixing the oxygen to the eosin and thus enabling it to regain more or less its former tint which the potassa has changed to blue

60 **Systematic Inhibition of the Inflammation in Treatment of Acute Meningitis**—Silvestri uses the term 'inibizione inflammatoria" to express the idea advanced by Spiess that inflammation cannot keep up when the reflexes emanating from the inflammatory focus are arrested or abolished Spiess gave an anesthetic for the purpose, and Silvestri has been applying the idea in treatment of acute meningitis and with most gratifying results Stroganoff's prophylactic method of treating eclampsia warding off the convulsions by keeping the woman under the influence of chloral and morphin, has afforded further bases for Silvestri's treatment. He was especially impressed with its efficacy in a case of acute delirium with positive Widal, all his other cases of this kind terminated fatally It also saved a woman with acute puerperal mania and two children with repeated convulsions for thirty-six hours (He gave no morphin to the children) After much tentative research he selected the calcium salts as the main feature of his method taking advantage of their sedative action on the nervous system, controlling the vegetative phenomena, as well as their sedative and reconstructing action on the central nervous system, their harmlessness, however long continued as he has established by personal research, and finally the marked curative and prophylactic influence in respect to the toxins which are particularly liable to induce convulsions

He gives the details of a few additional cases since his first communications on the subject in 1912 and 1914 and declares that the results speak for themselves and testify to the efficacy of this method of treating diffuse serous meningitis He uses equal parts of calcium bromid and calcium lactate for adults up to 10 or 12 gm in the first two days, along with 2 or 3 gm of chloral and possibly one or two injections of morphin The dosage is reduced after the first two days and ice is kept on the head and the bowel functioning supervised He declares that lumbar puncture is rendered unnecessary by this treatment which is especially adapted for private patients in the home where lumbar puncture is not always practicable He discusses the mechanism of this method of treatment, citing in conclusion Calcaterra's statement that diphtheria toxin obtained from cultures on a medium containing calcium chlorid was much attenuated, and the pyocyaneus lost part of its staining properties Also that H H Meyer has reported that dogs previously treated with calcium salts did not develop pleural effusion, as was inevitable otherwise when diphtheria toxin was injected Fischer and Moore have also reported that calcium salts prevented the serous effusions induced in animals by sodium iodid He cites also Muller and Saxl's experience that in old cases of tuberculous effusion the return of the effusion was materially delayed by administration of calcium salts Hamburger and De Haan have called attention to the power of small doses of calcium salts to enhance the phagocytic properties of the leukocytes, and Silvestri has often been impressed with the remarkable efficacy of prolonged generous doses of calcium salts in treatment of the exudative diathesis, in this diathesis the inflammatory reaction is entirely out of proportion to the cause

Semana Medica, Buenos Aires

Sept 23, 1915 XXII No 38 pp 357 384

64 Two Gallstone Operations (Dos casos de cirugia de las vias biliares) J Salvador
65 Diagnosis of Tuberculous Cavities in Lower Part of Lung (Tuberculosis pulmonar cavitaria de la base del pulmon) C P Mayer
66 *Latent Filariosis in Brazil (Filariosis latente de Tucuman) T Padilla

September 30, No 39 pp 385 416

67 Present Status of Treatment of Pulmonary Tuberculosis C P Mayer
68 Experiences of an Obstetrician in Remote Rural District (La obstetricia en el campo) A A Sonnenberg

October 7, No 40 pp 417 446

69 *Aneurysm of Aorta in Boy (Dilatacion sacciforme de la aorta en un niño de 12 años) M Acuña
70 Sarcomatous Degeneration of Fibroma of Nasopharynx in Young Man R Becco
71 Folding Shelf and Leg Rests that Screw to Any Table or Bed Transforming it into Gynecologic and Obstetric Table (Nuevo modelo de mesa desarmable pará partos y curaciones adaptable a cualquier cama o mesa comun) N L Cuneo
72 Chronic Simple Anemia in Girl of Six Apparently Cured by Horse Serum Tablets A Buzzo

October 14, No 41 pp 447 474

73 Sarcomatous Degeneration in Woman of 64 of a Vaginal Fibroma of Ten Years' Standing A Chueco
74 Present Status of Filterable Viruses C Malbran

October 21, No 42, pp 475 502

75 Electricity in Medicine C M Perez
76 *Serotherapy of Bubonic Plague J Moreno Commenced in No 30

66 **Latent Filariosis**—Padilla has found a microfilaria in the blood of 25 21 per cent of the persons examined in the Calera district and in 16 04 per cent in Arcadia, all in the Tucuman province He regards it as a new species, and states that those harboring it do not seem to suffer from it in any way There is some evidence that the mosquito is the transmitting agent A photograph is given of a group of seven adults and five children from among those with positive findings He has never encountered the adult form only the embryos, not having had opportunity for postmortem examination in any case to date They are smaller than other filarias known, and are most numerous in the peripheral blood drawn at night, although they could also be detected in the daytime In one case he found from 33 to 34 specimens in each field, in others from 4 to 6, 12 to 18, and in one case from 60 to 75 at midnight and only from 30 to 45 at noon

69 **Aneurysm of the Aorta in Boy of Twelve**—Acuña remarks that the rare cases of aneurysm in children that have been reported have generally been credited to rheumatism or chorea, but the Wassermann test has revealed that inherited syphilis is the main factor in the majority of cases The dilatation of the aorta develops slowly and causes no symptoms for many years as a rule Children seem to tolerate the aneurysm better than adults In the case he reports the thrill, the visible pulsation and roentgenoscopy [illegible] d the dilatation of the aorta to form an actual sac There were no signs or symptoms of inherited syphilis the Wassermann was negative, but the child's mother responded promptly to the Wassermann test, and had a history of four abortions in eleven pregnancies The syphilitic toxins had probably weakened the walls of the aorta during the intrauterine stage

76 **Serotherapy of the Plague**—In this sixth and final instalment of Moreno's article he gives the details of eight cases from the epidemic at Oporto and of thirteen that were in his personal charge The list includes the case of Dr C Pestana, who succumbed to infection from a scratch in dissecting a plague cadaver The first symptom of trouble was itching in the axilla on that side, the third day, followed in a few hours by chills, fever and swelling of a gland in the axilla with death the seventh day after the infection There were only two other deaths in the twenty-one cases here reported Study of all these cases shows that in certain cases bubonic plague develops for a time as a localized infection Although the bubo or buboes are accompanied by high feve etc, yet there does not seem to be general intox [illegible] Subcutaneous injection of 20 or 40 c c of antiplague [illegible] at this stage helps the organism to throw off the [illegible] It is naturally more effectual the earlier it is applied [illegible] the frequency of severe general intoxication and the difficulty in recognizing it early, make it much safer to push the serotherapy with large doses and give it both by the subcutaneous and intravenous routes The cases related emphasize the prompt benefit from the intravenous serotherapy, comparable only to that from diphtheria antitoxin Within twenty-four hours the temperature drops and the general health improves As it is impossible to foretell the course of the cases from the early symptoms, he regards it as demonstrated that intensive treatment should be instituted at once, and at least 80 c c of the serum should be injected intravenously This wards off general intoxication and tends to abort the disease and save the internal organs from the destructive action of its toxins He advocates 100 c.c. for the initial dose, repeating it within twenty-four hours, taking the temperature as the criterion It should be reduced to normal The clinical charts he gives demonstrate the wisdom of this dosage and its harmlessness The persisting buboes are of no more clinical importance than any ordinary local inflammatory process In conclusion he reports five cases pneumonic plague with three deaths The two patients [illegible] recovered had been given each three intravenous injections of antiplague serum on successive days

Russkiy Vrach, Petrograd

Oct 30, 1915, XIV No 44, pp 1033 1056

77 General Anesthesia in War Hospitals V A Oppel
78 Treatment of Tetanus (Stolbnyak) V N Novikoff
79 The Technic for Preparing and Administration of Antityphoid and Anticholera Vaccines V I Nedrigailoff
80 Traumatic Laceration of the Mucosa of the Bladder (Traumaticheskii razriv odnoe slizistoi obolochki mochevogo puzirya.) G I Baradulin
81 *Blumberg's Sign of Appendicitis (K voprosu o t naz priznakie Blumberg'a) P N Nikolaieff
82 Operative Treatment of Perforating Wounds of the Cornea and Cataracts Caused by Explosions M P Eliasberg
83 Positive Wassermann Reaction Before Syphilitic Infection S A Volinsky

81 **Pressure Sign of Peritoneal Irritation**—The so called Blumberg's sign is the pain in the region of the appendix following rapid removal of the hand after it has been applied to the spot to induce pressure Nikolaieff denies that it i specific for appendicitis He has been using this sign long before Blumberg, and found it not only in appendicitis b in every case of peritoneal irritation whatever its cause Thus he found it in perforative peritonitis, gastric or duodenal ulcer, in cholecystitis, typhoid ulcers, etc He usually exa ines each of the four quadrants of the abdomen He gives the history of five out of 340 cases in which he studied th sign It is especially pronounced during the first twenty-f or forty-eight hours being thus one of the earliest a therefore most valuable signs of acute involvement of t peritoneum by any of the above mentioned diseases I chronic peritonitis, for instance tuberculous peritonitis is absent

Nederlandsch Tijdschrift voor Geneeskunde, Amsterdam

Dec 11, 1915 II No 24 pp 2551 2654

84 The Red Cross Dogs. (Roode Kruishonden) E Bemelmans.
85 Electrograms of the Frog Heart under the Influence of Extra Electric Irritation (De gevolgen van extraprikkeling voor het electrogram van het kikkerhart) S de Boer
86 Experimental Research on Hemolytic Amboceptors (Dierproeven over de werking van haemolytische amboceptoren) L. P Daniels and L. S Hannema

December 18 No 25 pp 2655 2714

87 *Quadriceps Paralysis. (Quadricepsverlamming) H A Laan
88 Some New Chemical Tests for Alkaptonuria (Eenige nieuwe reacties op alkapton) M W Scheltema
89 Unsuspected Scrap of Bone Impacted in the Pharynx Two Cases (Twee gevallen van een beentje in het strottenhoofd) C E Benjamins.

87 **Quadriceps Paralysis**—Laan comments on the conflicting views recorded in the literature as to the value of transplantation operations in treatment of quadriceps paralysis Mayer has reported the case of a girl of 15 with lateral quadriceps paralysis who had learned to manage her that so well that *no operation could have hoped to improve* ated functioning She had learned to utilize the auxiliary s to the strengthening the sound muscles Laan has had forty six patients with quadriceps paralysis in his charge, it was bilateral in twenty of the cases This experience has convinced him that treatment should never start with transplantation or arthrodesis but should aim to prevent contracture and atrophy of muscles, and this should be the task of the family physician long before the case reaches the orthopedist Laan relates the details of twenty-five of the more instructive cases to illustrate the efficacy of simple measures perseveringly applied All thus reported were cases of flaccid infantile paralysis In none was the quadriceps alone paralyzed, other muscles were always involved The main thing is to determine the exact factors which are involved *in the inability to stand or walk This very often* proves to be an insecurity in the set of the foot on the ground When the position of the foot can be rendered stable, the sound muscles learn to compensate the paralyzed ones and good functional use of the limb is regained One striking benefit from this is that the limb grows in length Correction of contracture of the knee generally improves conditions so that nothing further is required except ensuring that the foot stands firm There was genu recurvatum only in one of the forty-six cases A transplantation operation was done in eleven cases one in this group was an adult, and the disappointing outcome discouraged him from any further attempts at transplantation in grown people Even in children he thinks equally good results can usually be obtained by simple means He aims to get the child on his feet and let him use his legs, without operative measures, although occasionally tendon transplantation may be necessary for stabilization of the foot Anatomic improvement can almost always be counted on in young children, and functional improvement in all Older children and adults usually have adapted themselves to conditions so that tendon transplantation is superfluous at this stage Arthrodesis of the hip or ankle is always bad, and arthrodesis of the knee for children is nearly as bad It should be considered for adults only when they definitely prefer the arthrodesis of the knee to the annoyance of a supporting device He had no case of the kind The aim is to hold the parts in a good position and exercise them

Finska Läkaresällskapets Handlingar, Helsingfors

1915 LVII No 1 pp 1 144

90 *Twenty Years of Scarlet Fever in Town of Twenty Thousand Inhabitants (Om scharlakansfeber och dess upptradande i Vasa under de senaste 20 åren) K Ekholm
91 *Tuberculous Abscess in the Liver F Saltzman
92 The Suture with Laparotomy (Till frågan om det klassiska laparotomisårets suturering) O Engstrom

No 2 pp 145 254

93 Drop Like Bodies in the Epithelial Cells of Postgonorrheal Urethral Secretion (Om hittils foga beaktade bildningar i det postgonorrhoiska uretralsekretets skifepitelceller) A Cedercreutz. Illustrated
94 *Tetany after Thyroid Operations (Om tetani i anslutning till strumaoperationer) E. Sandelin
95 Severe Injury of Vesicovaginal Wall during Criminal Abortion Fatal Septicemia T Lansimaki
96 Postglenoid Process on Skull not a Constant Sign of Degeneracy H Gronroos

No 3 pp 255 372

97 Cicatricial Stenosis of the Pylorus H v Bonsdorff
98 *Severe Hemophilic Intestinal Hemorrhage Treated with Transfusion of Blood R Forsius
99 *Atresia with Retention of Menstrual Blood without other Deformities (Nya iakttagelser af atresi med retention af menstrual blod vid enkel utero vaginalkanal) A Weckman

90 **Scarlet Fever**—Ekholm relates that during the last twenty years in the town of Vasa, no cases of scarlet fever occurred in about 60 per cent of the buildings of the town In other buildings the disease occurred again and again In one building with eighteen flats, cases were reported in 1899 1900 1901, 1903, 1906, 1907, 1910 and 1913 He cites facts which show that the susceptibility varies at different times and some families seem to be less resistant There were 23 return cases among 724 patients dismissed from the hospital as cured and presumably no longer contagious Walking cases without eruption, are probably responsible in many instances for the spread of the disease Only twenty-two of all the patients treated were adults

91 **Tuberculous Abscess in the Liver**—The man of 50 whose case history is related had for ten years presented symptoms of mild pulmonary tuberculosis, during the last three years accompanied by symptoms on the part of the kidneys and chronic diarrhea No tubercle bacilli could be found in the sputum Necropsy disclosed a large abscess in the liver surrounded by cirrhotic liver tissue The course of a tuberculous abscess in the liver is insidious and chronic. Except for vague gastro-intestinal disturbance, there is nothing to call attention to the liver as a rule The hectic fever is usually ascribed to the primary process until the liver lesion spreads to involve the peritoneum

94 **Tetany after Thyroid Operations**—*In one of the three* cases of tetany developing consecutive to operations on the goiter, the tetany proved so severe that death ensued during the convulsions The patients were women of 23, 28 and middle age and one had had part of the thyroid removed fourteen years before Sandelin ascribes the tetany to interference with the circulation in the parathyroids, as the inferior thyroid artery had been ligated in the course of the operation He warns that this had better be avoided in future

98 **Transfusion of Blood in Hemophilia**—A boy of 6 was in such a threatening condition of anemia from repeated intestinal hemorrhages that direct transfusion of blood seemed the last resource As no other donor was available at the time, Forsius gave his own blood and a marked turn for the better was soon apparent Gelatin was given at the same time After four months of freedom from hemorrhage subcutaneous hemorrhages brought the hemoglobin down to 20 per cent Then 20 c c fresh blood from a young man were injected and gelatin given A year followed without further mishaps, but then fatal intestinal hemorrhage occurred Forsius points out that the substances which have any influence on hemophilic hemorrhage are those which induce leukocytosis He does not think the blood platelets are directly involved As a means to estimate the amount of blood transfused he weighs both the donor and the recipient immediately before and after the transfusion The difference in the weight of each indicates the amount of blood that has changed hands

99 **Dysmenorrhea from Atresia**—Weckman adds seventeen *new cases to the nine previously published from Engström s* clinic On the basis of these twenty-six cases he discusses the pathogenesis, consequences and treatment. The blood regurgitated into the fallopian tubes may make its escape safely afterward when the natural outlet is made permeable The latter procedure is not always simple and easy In one case of low atresia of the vagina Engström was compelled to work through a laparotomy incision introducing the forceps to stretch the gynatresia from above. With atresia of the cervix it may be necessary to resect the constricted portion The twenty-six cases are related in detail with the special technic applied in each and the outcome

Hygiea, Stockholm

1915, LXXVIII, No 22, pp 1329 1407

100 Case of Pneumococcus Sepsis E Saul
101 Solid Teratoma in Right Chest (Fall av teratom i högra thorax) H Bendz
102 *Protecting Mechanisms of the Body by Chemical Means against Action of Poisons (Om några väsentligen kemiska skyddsmekanismer mot förgiftningar) C G Santesson

102 **Chemical Autoprotection Against Action of Poisons**—Santesson's article is the lecture opening his course of pharmacology He describes in particular the chemical means with which the organism seeks to overcome the action of poisons by stimulating the functioning of certain organs, by generating antibodies, etc

Ugeskrift for Læger, Copenhagen

Dec 9 1915 LXXVII No 49 pp 1915 1962

103 *Contraindications against Subcutaneous Injections of Epinephrin (Om kontraindikationer mod den medicinske Anvendelse af subkutane Adrenalininjektioner) L S Fridericia
104 *Necessity for Breaking up the Vicious Circle with Chronic Disease (Circulus vitiosus i kroniske Lidelser) P Lorenzen
105 *Mumps Appears for First Time in Greenland (Erfaringer fra en Parotitisepidemi i Grønland) A Bertelsen
Chicken Fleas as Parasites on Man (Hønselopper som Parasit hos Mennesker) Strodtmann

December 16, No 50 pp 1963 1994

Two Cases of Congenital Malformation of the Heart (I Truncus arteriosus persistens totalis II Atresia ost venos dext) G Jørgensen
8 Relapsing Fever Cured by Neosalvarsan (Et Tilfælde af Fb recurrens behandlet med Neosalvarsan) C H Wurtzen
109 Relapse after Lorthioir s Operation for Inguinal Hernia in Three Months' Infant Bjerrum
110 Spontaneous Partial Strangulation by Hair of Excessively Developed Labia Minora, Two Cases O Haslund

103 **Contraindications Against Subcutaneous Injections of Epinephrin**—Fridericia refers to the medical use of epinephrin He says that it is used in Denmark quite extensively n treatment of asthma The asthma patients admitted to the Rigshospital in recent years had all been given subcutaneous injections of epinephrin at some time or other The transient pallor, chilliness and palpitations sometimes observed after the injection have always been regarded as negligible by-effects in comparison to the relief obtained from the epinephrin M Donaldson seems to be the only one who regards these by-effects as so serious that he has given up the use of epinephrin Fridericia has compiled from the literature five deaths following injection of epinephrin In one of these a large dose (0 6 gm) had been injected into a vein in a much debilitated patient with infarction of the lungs, granular nephritis and arteriosclerosis In all the others the epinephrin had been injected into the muscle of the uterine cervix while the patients were under the influence of chloroform He has also found two deaths on record after subcutaneous injection of epinephrin, but these were in infants, only 3½ months old Kauert has reported a case of briefly transient pulmonary edema in a patient with pneumonia given an intravenous injection of epinephrin, and arrhythmia with dyspnea in a patient with an aortic valvular defect with failing compensation Experimental animals can stand from ten to fifty times relatively larger doses by subcutaneous injection A number of clinicians have reported unfavorable experiences with subcutaneous injection of epinephrin in cases of heart or valvular defects Some warn expressly against it with heart disease or nephritis with high blood pressure On the other hand, testimony is constantly accumulating as to the value of epinephrin in sudden heart weakness in the course of acute infectious diseases

These and other data cited confirm the danger of administering epinephrin in case of organic heart or valvular disease, and this conclusion is reenforced by two cases from Fridericia's own experience The epinephrin had been given to relieve asthma in both, but the asthma was not, as supposed, ordinary bronchial asthma, but was of cardiac origin The subcutaneous injection of 0 4 c c of 1 1,000 epinephrin in the first case was followed by collapse and angina pectoris and the man of 62 died the second day, after a period of Cheyne-Stokes respiration The second patient was a woman of 49 with hypertrophy and dilatation of the left ventricle She had suffered from dyspnea at times during the last eighteen months and in one severe attack she was given a subcutaneous injection of 0 4 c c. of epinephrin Dys became much aggravated at once and the woman vo and felt much depressed Under morphin and campho felt better, but died three months later having pres angina pectoris and Cheyne-Stokes breathing durin interim In both these cases the intern summoned in to the patients failed to distinguish that the asthma the cardiac rather than the ordinary bronchial type I the diagnosis that had accompanied the patient to th pital was "bronchial asthma"

Signs of a valvular defect or hypertrophy of the lef generally exclude bronchial asthma With cardiac there is no expectoration or merely reddish foamy Fine moist râles may be heard with cardiac asthma with asthma of the bronchial type there are rhonchi Br asthma usually occurs only at certain seasons of th The sputum also shows the characteristic spirals, et the blood eosinophilia Opinions are conflicting whether epinephrin should be given when true b asthma is accompanied with a weak heart Fridericia any cardiovascular insufficiency as contraindicating

104 **The Vicious Circle in Chronic Affections**—I expatiates on the importance of the secondary symptor develop in the course of digestive disturbances, tr lesions or other chronic trouble. The secondary sy general nervousness, etc., may overshadow the primal and the whole form a vicious circle It is like a circula and the physician by attacking a weak link may br the chain completely If he does not succeed with o the links he should attack another In some cases syste massage of the abdominal wall cures a tendency to fib and ptosis, and this in turn restores better conditions functioning of the viscera, thus relieving the physic comfort and the dread of organic abdominal disease from this worry brings peace and sleep, and a long st been taken toward a complete cure In other cases dru relieve insomnia may break up the vicious circle Ir others some local rheumatic affection is accompani general nervousness and chronic dyspepsia Althoug latter is probably the primary, yet he directs treatment rheumatic trouble alone until he gets the patient's confi and has enough control over him to get the measures enf which the dyspepsia requires Then gradually all th turbances disappear Chronic digestive disturbances times yield surprisingly to belladonna which he expla assuming that the secondary nervous symptoms had grad taken the upper hand Correction of the latter breaks vicious circle

105 **Introduction of Mumps into Greenland**—Ber writes from Umanak in Greenland that primary epid parotitis was never encountered in Greenland to his kn edge until the infection was brought in 1913 by a ship Denmark, and of the 2,425 individuals in the district, 1 500 contracted the disease In his special district, the 285 individuals were affected, that is, 66 per cent men and 68 per cent of the women No infant under affected, 18 per cent of the male patients developed c and 5 3 per cent of the women had mastitis, that is half of the women who were nursing infants at the ti 3 of the 8 cases of mastitis this was evidently the p localization of the disease, the parotitis following later was suppuration of the parotid gland in one case and breast in one Oophoritis could not be determined wi tainty in any case There were no fatalities and no c trouble seemed to be left in any instance

---

Correction—Benzin, not Ether, for Bacteriologic Exa tion of Stools—The term "petroleumsæteren" was incor translated "ether" instead of "petroleum ether" as it be, in Abstract 124 in The Journal, Jan 22, 1916, pag The word occurs five times in the abstract and once title, and in each instance petroleum ether should be spe This has a boiling point below 50 C, while the boiling of the closely allied benzin is stated to be 80 C The the boiling point, the greater the destructive action o colon bacillus

Robert Hene